# Global Literacy in Local Learning Contexts

## Connecting Home and School

Mary Faith Mount-Cors

ROUTLEDGE

# Global Literacy in Local Learning Contexts

Based on qualitative research focused on literacy and health in three schools in coastal Kenya, this book examines country, school, and family contexts to develop a dual-generation maternal-child model for literacy learning and to connect local-specific phenomena with national and international policy arenas. In contrast to international development organizations' educational policies and programs that tend to ignore literacy as a social practice within diverse contexts, the author unpacks the relationship between education and health, and the role of family and mothers in particular, highlighting how mothers are key actors in children's literacy development and health outcomes.

**Mary Faith Mount-Cors** is the president of EdIntersect, USA and part-time faculty at the University of North Carolina—Chapel Hill, USA

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# Global Literacy in Local Learning Contexts

## Connecting Home and School

**Mary Faith Mount-Cors**

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This book is for my family. For my two daughters Madeleine and Evie, my husband, my parents, my in-laws, my sisters and all of those who made doing this research possible by extending their care for our children and their support through the years.

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# Foreword

Since 1980, we have known from analyses of census and survey data in the developing world that the number of years an adult has attended school is correlated with a variety of positive outcomes indicative of better health and welfare, even when income and other socioeconomic status variables are statistically controlled. For maternal schooling and child survival, the cross-national analysis by Cleland and van Ginneken, published in 1988, was particularly conclusive. But why was this correlation replicated so widely across developing countries? It was left to statisticians and social scientists with little knowledge of schools, schooling, or educational research to answer that question. The answers they came up with did not require collecting more data; they speculated that the widespread and robust correlates of women's school attainment could be explained by social attitudes like aspirations, assertiveness, or autonomy: those who went further in school acquired more of those dispositions. Jejeebhoy published a monograph in 1995 that made the case for autonomy.

Our group at the Harvard Graduate School of Education had been "commissioned," you might say, by the Population Council in New York, through a grant from USAID, to solve the problem, beginning in 1981. In our early research in urban Mexico, we hypothesized that the maternal behavior of more schooled women would be more labor-intensive, involving more talking to children in the first and second years of life. The hypothesis was upheld, but it built no more on educational research in schools than those of other social scientists. When we decided to extend our research to a rural community in Mexico in 1989, however, two of our Mexican doctoral students, Patricia Velasco and Medardo Tapia-Uribe, convinced me to try out two literacy assessments they had used in their dissertation research: the reading comprehension test based on school textbooks devised by our colleague Professor Jeanne Chall, and the noun definitions test of decontextualized language devised by our colleague Professor Catherine Snow. Preliminary results on these tests from the Mexican community so closely tracked the mothers' amount of school experience that I decided to focus on literacy as a pathway in our comparative research, which soon expanded to

three other countries where we had doctoral students: Venezuela, Nepal and Zambia. Our results, analyses, and extended interpretations were eventually published as a book, *Literacy and Mothering: How Women's Schooling Changes the Lives of the World's Children*, in 2012.

Our book was well received, but that does not mean that our theory has been accepted in the social sciences or development studies. We have shown the plausibility of the hypothesis that literacy provides a pathway through which schools of varying quality affect health and other outcomes in the wide variety of developing countries represented by our four-country study, but confirmation is needed. We need longitudinal evidence in which the same child is measured at different ages and levels of schooling. We need intervention studies like the one in this book by Dr. Mount-Cors, in which teacher training is treated as an experimental variable, and we need mixed-method studies like hers that demonstrate the complexity of the conditions at home and in school.

The language situation of the Kenya coast portrayed in this book, in which the national language used in school is not the language used at home, is extremely common in developing countries, not only in Africa (where we found it in Zambia) but in South Asia (e.g., Nepal) and in parts of Latin America (like the Mayan-speaking areas of Mexico and Guatemala). Dr. Mount-Cors' case study usefully identifies how the "disconnect" between home and school languages can block the easy transfer of literacy skills but need not if family members have been to school and try to help with homework. Her portrait of helping with homework as a factor in the acquisition of reading is illuminating and a rarity in the literature on education in developing countries.

This book provides an example of the fascinating and definitive studies we could conduct if education were given the priority that health has long had in international research programs: a mix of baseline surveillance studies with experiments conducted over time in permanent sites of differing parts of the developing world. That dream may never be realized, but meanwhile we have this study in Kenya to show the way.

Robert A. LeVine

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# Preface

This book recognizes the current education quality and learning discussions in global development and what is missing from them. There is interest currently in which mechanisms account for school success and children's later outcomes. Teacher training, classroom instruction, and community engagement in school are often cited as key areas of investment to improve education quality and achieve better literacy outcomes. This book fills a void in these global education discussions, and research and academic knowledge, about the configurations of mothers' and children's daily lives and how these factors affect literacy development at school. The book advocates for maternal-child literacy, which applies a life course perspective akin to that drawn on in maternal-child health. This perspective combines a sound understanding of human development and the social determinants of literacy as they intersect across the course of one's life and across generations. This perspective puts appropriate attention on intersectional analysis, in seeing how gender, ethnic group, language group, culture, health conditions, and economic situation have effects on children's and mothers' literacies. Elements of family literacy, cultural analysis, and additive schooling come into play in this type of model to combat literacy inequities.

The book brings the specificity of a particular case of a multilingual, multi-ethnic district in coastal Kenya, which provides a depth of grounded findings from mothers' lives and children's reading outcomes. It analyzes the disconnect surrounding the performance of children on reading assessments and their home contexts, whose daily realities significantly affect literacy development and are often left unexamined in global attempts to improve literacy outcomes. The ethnographic analysis integrates the health, education, socioeconomic, and language aspects of mothers' and children's lives by starting from mothers' own descriptions of their lives. The descriptive data found in this book is not readily available to researchers and practitioners and is needed to understand how to design projects that make a difference.

The perspectives of primary school mothers and other stakeholders provide insight into reading and literacy. In addition, the qualitative findings

compared and merged with the quantitative data provide support and structure for a multifaceted and integrated intervention model and also illustrate the need and value of incorporating mixed methods research into donor-funded development research. This research indicates the critical importance of engaging the home of the child and mother in addressing literacy and health.

The book reinforces the close relationship between adult literacy and child literacy, and particularly the need to work with mothers when aiming to improve child literacy. The book also illustrates women's crucial space within the family and community in tying together health and education. For health and literacy to advance, the two must be considered together within mother-child relationships and home environments. The economic, social/gender, linguistic, and physical layers of environment within the home determine mothers' ability to provide basic health and education for their children. By departing from the socioeconomic determinants prism and arriving at a hybrid sociocultural processes lens, the book recasts the ways literacy, health, and development approaches can move forward.

# Acknowledgments

I am grateful to have the words of Robert LeVine provide a foreword for this book. He ties my research to the arc of his and his colleagues' research over the past 35 years, thereby fulfilling the dream of perhaps any researcher to be of a mind with those who have worked longer than I to build the case and who can see in my research a needed path forward.

I appreciate the commitment and wisdom of my University of North Carolina doctoral committee Catherine Marshall, Rebecca New, Regina Cortina, Audrey Pettifor, and Wallace Hannum. The Graduate School, the School of Education, the School of Public Health, and the Center for Global Initiatives provided support both financial and academic to my field research in Kenya and educational experience on campus.

RTI International, the staff in the Research Triangle Park and Washington, DC offices, staff and partners in Kenya, the government of Kenya, the Kenya National Bureau of Statistics, my research assistants in Kenya, the schools outside of Malindi town that participated in this research, including the mothers of students and the head teachers at these schools, provided access and a collaborative spirit that made this project possible.

UNC colleague Michael Peterson provided invaluable statistical expertise and served as an important sounding board for the quantitative secondary analysis.

My sister Diane Mount Nisbet provided editing and review for this book, and came through at critical times when time was short and energy waned with just the right gentle push to complete this book project.

# 1 Introduction

## Global Literacy Landscape and Local Literacy Discovery

*In this era of stark disparities, literacy brings opportunities to those who have been disenfranchised, marginalized and neglected; neo-literates acquire greater capacity and skills to raise their income levels, build sustainable livelihoods, benefit from health and educational services, engage more broadly in the public arena and transform their lives. Indeed, literacy is vital for securing meaningful access to political, economic and cultural opportunities. This is particularly the case for women, for whom lack of literacy skills multiplies the effects of discrimination. (p. 6)*

Qian Tang, Assistant Director-General for Education.
In P. Easton (2014). *Sustaining Literacy in Africa:*
*Developing a Literate Environment*. UNESCO

I started this research with the intent to look at health factors around literacy by talking with mothers of children who had been part of a reading intervention that trained teachers on reading instruction and tested second graders' reading skills in coastal Kenya. I designed my field research to take place in three schools that had participated in the reading assessment with varying levels of growth—low, mid, and high—as demonstrated in their pre- and post-intervention reading scores. I saw that factors surrounding children in their everyday lives, in their homes and communities, were not taken into account when developing the literacy intervention. I knew that, especially in low-income contexts, literacy development was dependent on more than providing teachers with new instruction strategies and testing children.

Some of my own questions, buttressed by an intersectional analysis framework, were: How did this intervention attend to literacy as a social practice? What did this intervention really know about the children's lives? How did the intervention engage their primary literacy models, which are commonly their mothers? What were the health factors at play in children's lives that may affect their attendance at school and their ability to learn to read? What came out of this research was a rich picture filled with the conditions of mothers' and children's lives. What I write about in this book is that landscape of life as described by mothers. With the publication of this

book, I hope this grounded knowledge will enhance early literacy interventions as well as adolescent, women's, adult, gender, health, and broader education programming.

Literacy has been defined in multiple ways as follows:

1. Literacy as skills or cognitive processes—the ability to read, write, calculate.
2. Literacy as applied or situated, as in functional or family literacy.
3. Literacy as a set of social and cultural practices embedded in specific socioeconomic, political, cultural, and linguistic contexts, such as schools, family, and community.
4. Literacy as capabilities, demonstrated in a person's ability to achieve their communicative goals.
5. Literacy as a tool for critical thinking to take action for social change.
                   (UNESCO Institute for Lifelong Learning, 2013)

In these evolving definitions of literacy, a common thread is the notion of literacy as a continuum, which means there is not a definite line between literate and non-literate. In this book, whereas the reading assessment data we analyze, which was collected with tools developed by USAID (U.S. Agency for International Development) and RTI International, references the first definition on the list, we move the conversation through field research at school sites and with parents toward the second and third definitions. Our research approach shows how literacy cannot be isolated only to a set of skills, but must be understood within its contexts. We bridge the vision of literacy as a technical intervention that emphasizes instructional strategies, professional development, and testing with sociocultural or ideological literacy that deals with the social dimensions of literacy. I will use the terms *sociocultural literacy* and *literacy as a social practice*. These terms include an understanding of multiple literacies (Street, 2003; Perry, 2012) that vary according to time and space and power relations, and are quite applicable to the multilingual and post-colonial environments of our research sites in this book. An earlier version of my research was cited in the 2014 United Kingdom Department for International Development report (Nag, Chiat, Torgerson, & Snowling, 2014) on literacy, which found a need for the integration of interventions with local cultural practices in order to avoid the tendency for Western-led programs to ignore or eliminate indigenous methods and thereby reduce the engagement of children and their families.

The intervention that provides the focal point for both the child reading data and parent field research findings was an early grade reading instruction training for teachers and assessment of students targeting the improvement of second graders' reading achievement in schools outside of Malindi town on the coast of Kenya. Based on focus group discussions with mothers of students in the reading intervention, Chapter Five, this volume, examines maternal attitudes about children's health and literacy, uncovering

disjunctures between mothers' narratives and development policy assumptions. Chapter Six, this volume, addresses the integration of results of the study, which moves beyond Western assumptions about literacy, health, and development and connects literacy across the lifespan, from the mother to the child. I examine health effects on school literacy that illustrate the home's layers and how they drive health and, in turn, school literacy outcomes. I also focus on the maternal-child connections that influence health and literacy, and how they are grounded in home environmental layers. I suggest a literacy intervention design that takes into account health and literacy, recommending a need to home in on these cyclical and interconnected sectors of children's, mothers', and families' lives.

In this introductory chapter, I will consider the landscape of global literacy policy and then key local literacy knowledge discovered through this research.

## Global Literacy Policy

Literacy is essential to reaching the fourth of the 17 Sustainable Development Goals (SDGs), the 2030 Agenda ratified by the UN in September 2015 as the post-2015 global consensus agenda. SDG 4 promotes inclusive and equitable quality education and lifelong learning for all. Literacy is viewed as critical within this goal to advance improved health care, food security, poverty reduction, and greater work opportunities. The United Nations has underlined literacy as a human right that empowers people and communities (International Institute for Sustainable Development, 2015).

It is not yet clear how the SDGs will alter Kenya's country development plans or that the goals provide any additional guidance on sectoral integration of education and health goals beyond the former global agenda, the Millennium Development Goals (MDGs). The SDGs recognize the important of education, and literacy specifically, in driving outcomes in other sectors. Literacy is prioritized in the SDGs first in the notion of lifelong learning for all children, youth, and adults, emphasized in SDG 4. In addition, literacy and numeracy, which were well represented in the prior global consensus from 1990 through 2015, the Education for All (EFA) goals, are mentioned directly in target 4.6 of SDG 4. Meanwhile, SDG 3 focuses on health and SDG 5 on gender equality, which are both pertinent to the integrative research described in this book. The EFA goals of 1990 and 2000 integrated gender and girls' education into education with specific language and also explicitly named literacy and learning outcomes among their six goals.

At the World Education Forum 2015 in Incheon, South Korea, the EFA agenda was formally merged into the SDGs, with UNESCO and other UN agencies and the World Bank Group, stating: "Our vision is to transform lives through education, recognizing the important role of education as a main driver of development and in achieving the other proposed SDGs. We

commit with a sense of urgency to a single, renewed education agenda that is holistic, ambitious and aspirational, leaving no one behind. This new vision is fully captured by the proposed SDG 4 "Ensure inclusive and equitable quality education and promote life-long learning opportunities for all" and its corresponding targets. It is transformative and universal, attends to the 'unfinished business' of the EFA agenda and the education-related MDGs, and addresses global and national education challenges" (p. 1). As the yearly EFA global monitoring report has become a staple gauge in the development community for progress in education globally, the Incheon Declaration also requests that the education global monitoring report continue being hosted and published by UNESCO for SDG 4 and education targets embedded within other SDGs (UNESCO, 2015b).

Whereas education's importance in driving development outcomes across the life cycle may be gaining in prominence in development discourse at forums such as those cited above, adequate education financing does not tend to follow. Education financing often takes a back seat to investments in global health, to which education is often compared. Multilateral health investments have risen by 58% since 2008, whereas education investments have dropped by 19%. Meanwhile, corporate giving to global health is 16 times what it is to global education (Winthrop, Bulloch, Bhatt, & Wood, 2013). Multilateral donor investments to global education have been unpredictable and inadequate. UNESCO estimates a funding gap of $26 billion to achieve basic education for all children in low-income countries. If the goal is expanded to lower secondary education for all children, then the funding gap goes up to $38 billion each year (UNESCO, 2012). Aid dollars to global education have been declining just as top donors have begun focusing more specifically on reading for early primary students. Top bilateral donors, USAID and DfID (U.K. Department for International Development), have reading goals as a key part of their strategic plans. Early literacy may be receiving a greater share of a decreasing overall global education investment, but adult literacy funding has been dropping in its share of education financing (Cobbett, 2010). The intergenerational nature of learning to read and nurturing a culture of reading across the life cycle becomes difficult with this uneven and inadequate funding.

### Literacy Across the Life Cycle

Literacy rates for adults and youth are reflections of the school system as well as communities and homes that the children inhabit. Over a fifteen-year period, often the span of global agendas such as EFA or MDG, children move through early childhood, then adolescence, then youth and young adult years. Tracking adult literacy rates and their change over time is one gauge then of reaching education targets. It indicates how well the education system is serving children as they move through the developmental stages from early childhood through adulthood. Likewise, because mothers

play an especially critical role in child literacy, women's literacy rates are especially important, as are the correlations found between regions with lowest literacy rates and lowest gender parity index scores for adult literacy rates. In fact, the life course of a girl and her transition into adolescence and motherhood is often quite truncated in sub-Saharan countries such as Kenya, Uganda, and Tanzania, where 7 to 12% of mothers gave birth before age 16 in a recent study. In Kenya, close to 50% of mothers reported their first birth occurring before age 20. These statistics are important for the life course of the child born to an adolescent mother as adolescent motherhood is strongly associated with poverty, lack of literacy, and low education levels (Neal, Chandra-Mouli, & Chou, 2015).

Suggestions for a future agenda in the evaluation report for the UN Literacy Decade 2003–2012 included in-school and out-of-school strategies, with attention to elements of the learning environments, such as teaching and learning materials, but also to the culture(s) of the literacy environments both at home and at school and throughout the community. Importantly, the agenda also highlighted the importance of literacy and learning to read across the life cycle—for children, adolescents, and adults. Alongside recommendations for improving instruction, the future agenda asked for: "Intensifying efforts to address non-literate and functional illiterate adults. In promoting an inclusive literate world, adult literacy, which has hitherto been relatively neglected, needs to be given a greater thrust; . . . Focusing more sharply on the learning needs of girls and women. It is critical to redress female illiteracy through gender- and context-specific policies and programmes aimed at literacy. Positive discrimination measures for boys and men are also required, where appropriate" (UNESCO, 2013c, p. 22).

### Adult Literacy, Women's Literacy, Youth Literacy, and Child Literacy Trends

In 2015, globally, 757 million adults, two thirds of whom were women, lacked basic literacy skills, whereas the number of out-of-school children and adolescents was on the rise at 124 million worldwide, with 250 million children of primary school age not achieving basic literacy skills, even with schooling (IISD, 2015). Progress toward the 2015 EFA target of cutting the adult illiteracy rate in half was uneven globally and slowest in sub-Saharan Africa, which showed the lowest current literacy rates at 59% (adult literacy) and 70% (youth literacy) (UIS, 2013b). When separating rates by sex, the male literacy rate was 68% and the female rate was 51% in 2011 in sub-Saharan Africa. Across time, the adult literacy rate has grown in sub-Saharan Africa: in 1990, 53%; 2000, 57%; in 2011, 59% (UIS, 2013a). The gains in adult literacy between 1990 and 2011 were most modest in sub-Saharan Africa compared to other regions at only 6%. Improvements in the adult literacy rate in sub-Saharan Africa were in fact not adequate to

keep up with population growth, so the numbers of illiterate adults actually grew, from 133 million in 1990 to 774 million in 2011 (UIS, 2013a). Kenya and Uganda have the lowest adult illiteracy rate in the region at about 27%.

When looking at trends from 1985 to 2015, it is important to remember a life course perspective. (For Kenya, adult literacy rates were based on 2008–09 Demographic and Health Survey data with assessment of reading skills of males aged 15–54 and females aged 15–49. For youth literacy rates, males and females aged 15–24 were surveyed). An adult or youth tested in 2011 at age 15 or 16 was a child in 2000 at age 4 or 5. The adult literacy rate and the youth literacy rate are then reflections on the school system, the quality of instruction, and the conditions surrounding the child that determine his or her success at learning to read. In fact, the current initiative from UNESCO to follow on the post-2015 agenda mirrors this life course perspective as it aims to create a multistakeholder partnership to pursue an integrated program to promote child, youth, and adult literacy (UNESCO, 2013a, July). In addition, regions that show progress in adult literacy rates often can attribute the growth to significant improvements in women's literacy rates in particular. The Gender Parity Index, which demonstrates how close the literacy rates for men and women are, tends to correlate with overall literacy progress (UIS, 2013a). When women's literacy rates improve, overall literacy rates go up significantly, demonstrating the substantial connection between mother and child in the development of a literate home, community, and culture.

Likewise, girls' completion rates for primary and secondary school are lowest in these regions where men's and women's literacy rates are furthest apart. Globally, girls are less likely to complete a primary cycle of schooling than boys, and even less likely to complete secondary. In 2007, school life expectancy for girls—that is, the number of years of schooling that a first grader could hope on average to achieve—was 7.9 years compared to 9.3 for boys (Easton, 2014). The lower rate of school completion for girls is connected to early marriage and early pregnancy, but also to lower rates of literacy for women who are the mothers of schoolchildren. Literacy and learning to read are life course issues as their effects span generations and are felt most acutely by girls and women. In sub-Saharan Africa, girls have the least access to education as shown in the lowest indicators of girls' completion.

## Literacy Agendas of International Aid Organizations

The UN Literacy Decade from 2003 to 2012 had the tagline "Literacy as Freedom." Its evaluation report, mentioned above, touted a rising interest in an understanding of competences and skills connected to literacy but, in critical regions such as sub-Saharan Africa, literacy rates showed less improvement after 2000 than between 1990 and 2000. With such stagnation in literacy growth, literacy increases within the population could not be

heralded as an achievement during the UN Literacy Decade, but the use of literacy assessments and revised measures of literacy were noted advances over the decade (UNESCO, 2013c).

Relatively few low- and middle-income countries are able to afford participation in international large-scale literacy assessments like PIRLS (Progress in International Reading Literacy Study). Lower-income countries have fewer barriers to participation in regional large-scale assessments, such as SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality). Meanwhile, the number of small-scale assessments has increased. In India, Pratham's household survey reached nearly half a million children in 2012. In Kenya, Uganda, and Tanzania, Uwezo tested the literacy skills of about 350,000 children. In addition, the Learning Metrics Task Force started its work in 2012 to recommend main domains of learning, including literacy and communication, and types of measures to be undertaken. The UNESCO Institute for Statistics (USIS) created the Observatory of Learning Outcomes to monitor global trends in students' learning achievements. In addition, the Learning Counts seminar and General Education System Quality Analysis/Diagnosis Framework of UNESCO; the World Bank's Systems Approach for Better Education Results initiative; and the Assessment and Teaching of 21st-Century Skills project, launched by Cisco, Intel, and Microsoft in 2009, all emerged in the first fifteen years of the 21st century (UNESCO, 2013c).

Among these new assessments, the Early Grade Reading Assessment (EGRA), which RTI International began developing in 2006 under the USAID EdData II project, was designed to provide a simple, low-cost measure of literacy. EGRA has been used in over 65 countries and more than 100 languages (Dubeck & Gove, 2015) both by RTI International and other organizations. The adaptation of EGRA into other languages continues to be a challenge as speed and the process of learning can have wide variation, and reliable benchmarks for measurement have not yet been set in many languages. In its use in coastal Kenya in 2007–2008, on which the quantitative reading data analyzed in Chapter Three of this book is based, EGRA was used to capture reading scores for second grade students before and after a teacher training program focused on reading instruction methods and materials. EGRA is suggested for use as a system-level, progress-monitoring tool or for program evaluation, but not as an intervention or curriculum (Dubeck & Gove, 2015). The assessment tool is oral with items similar to DIBELS (Dynamic Indicators of Basic Early Literacy Skills) (Good & Kaminski, 2015), which was developed for English reading in the 1970s and 80s at the University of Minnesota and includes phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. DIBELS was designed for use in identifying children experiencing difficulty acquiring basic early literacy skills to provide support early and prevent the occurrence of later reading difficulties. DIBELS often serves as a formative assessment or curriculum-based

assessment; thus, DIBELS differs in purpose from EGRA as stated above, although the tools are quite similar.

Overall, when considering adult literacy measures as well as child literacy measures, a move toward a more accurate measure of literacy rates has been in the works in recent years. For youth and adult literacy measurement, rather than a self-report or household-report of whether a person can read and write, aid efforts (UNESCO Institute for Lifelong Learning, 2013) are moving to assessing literacy using a reading test, or a respondent's ability to read a short sentence. Kenya is one of the countries in which current literacy rates are now based on assessments rather than self-reports or reports about others in one's household (UNESCO, 2013c). Literacy rates derived with this updated method tend to be lower than self-reports, so the data should be viewed with this potential difference in mind. For this reason, literacy data from Kenya and numerous countries using this new reading measure approach were not included in final EFA tallying of global success in meeting 2015 international goals.

The difference between reading scores in primary schools and adult literacy rates on national surveys may be attributed in part to the further development of literacy skills over the course of time both in and out of school. It may also be attributed to differences in assessment instruments in difficulty and consistency from school assessments to national literacy surveys. But, an important factor in reading assessments is the language in which the respondents are assessed. The Kenya National Bureau of Statistics (KNBS, 2007, March), conducted their survey in English, Kiswahili, and 18 other local languages, which "provided the respondents with the opportunity to respond in a language that they were quite comfortable with" (p. xi). The early grade reading assessment in coastal Kenya, on the other hand, conducted assessments for second-grade students in Kiswahili and English, the two official languages of instruction. Students begin and end their schooling on the coast learning in those two languages, but once they complete school or drop out, students who live in rural areas conduct their lives in their communities predominantly in their home languages with arguably very little daily use of Kiswahili or English.

## Parental Involvement and Mother-Child Literacy Programs

There is recognition that literacy is linked to development; this is particularly true with respect to female literacy, which is central to health, empowerment, environment, and rural development. The SDGs emphasize the intersectoral responsibility to address literacy and to coordinate youth and adult literacy. This means that across all sectors of development from education, health, sanitation, and water to agriculture, economic growth, and food security, literacy drives outcomes and must be addressed. According to LeVine, LeVine, Schnell-Anzola, Rowe, and Dexter (2012), maternal education improves outcomes in child health, child nutrition, and child survival

by transforming communicative processes and maternal behavior. A corollary would be the strong effects of maternal education on children's literacy learning, which have been noted in research over the past 30 years, with the mother's education level being a predictor of children's literacy outcomes.

Much of the research on mother-child literacy programs has examined models in the U.S., but some international data has emerged as well. The Parent-Child Home Program (PCHP),[1] a home visitation program that supported positive parenting practices and helped parents learn how to stimulate their children's cognitive and social-emotional development, was implemented in 14 U.S. states as well as Bermuda, Canada, and Ireland. The program served non-native-English-speaking families in more than 50 different languages. The participants included homeless families, grandparents raising grandchildren, teen parents, foster parents, and families in high-need communities. Two evaluations showed PCHP children scored higher than the control group on IQ tests at the conclusion of the program, and PCHP mothers scored higher on a maternal interactive behavior measure (Madden, O'Hara, & Levenstein, 1984). Children in Bermuda had higher scores on the sorting task taught by their mothers and better communication skills (Scarr & McCartney, 1988). Banerji, Berry, & Shortland (2014) stated that in programs in India to improve home learning environment in rural households, homes received a combination of the following treatments: (1) adult literacy classes for mothers, (2) training for mothers on how to enhance their children's learning at home, (3) a combination of the first two interventions, or (4) nothing/control group. Mothers in the first three groups performed better on a combined language and math test when compared to the control group. All three programs had statistically significant effects on children's math scores, but only the combined intervention had significant effects on language scores. The interventions also increased women's empowerment, mothers' participation in child learning, and the presence of education assets in the home. The programs had comprehensive effects: influencing child learning, mothers' learning, and the home learning environment.

The Literacy Boost program, started by Save the Children and active in at least 30 countries in Africa and Asia, uses a similar assessment as EGRA, provides teacher training including a move toward more print-rich classroom environments, and includes a community component in which parents are enlisted in support of their children's reading, and reading camps take place for children during school breaks. Results reported in 2012 from Malawi and Mozambique showed significant gains in reading scores for children. Furthermore, a key lesson of these initial evaluations was that out-of-school reading and parental awareness correlated with improved child literacy skills. Children whose parent attended a Literacy Boost workshop demonstrated significantly greater average vocabulary gains (18.99 percentage points) than those who did not have a parent attend, and the effect was greater for children of non-literate parents (Trudell, Dowd, Piper, & Bloch, 2012).

Continued studies of equity across countries with Literacy Boost demonstrated the strong effect of home literacy environment (e.g., reading materials and family members at home who read to children) (Dowd, Friedlander, Guajardo, Mann, & Pisani, 2013). The breakdown of mothers, fathers, and other caregivers within the family members involved in the community aspect of Literacy Boost has not been highlighted in reporting; understanding the impact of gender dimensions of parental support in this program would be instructive.

Some of the preceding studies were included in a December 2014 presentation (Cao & Ramesh, 2014) funded by USAID's Global Reading Network entitled "Parental and Community Involvement in Early Grade Reading". The research studies demonstrated mixed results, with some citing scarce empirical support for parent involvement in changing student achievement (Mattingly, Prislin, McKenzie, Rodriquez, & Kayzar, 2002) and others citing the positive effect across numerous interventions of parent involvement on children's reading acquisition (Senechal & Young, 2008). Cao & Ramesh (2014) highlighted that it is not a question of if parent involvement in children's reading makes a difference, but how. We use mothers' and parents' education levels and literacy levels as key variables in collecting data about children because they are shown to correlate with children's outcomes, but we know less about the causal nature of this association. The timeframes are often very short for these studies and they do not track long-term outcomes or behavior outcomes, only if child literacy improves often over just a 4–10 week period. The quality of the parent-child interactions and the vocabulary of parents and how many words they pass along to their children—these are just two of the factors that make a difference in how much of an impact parent involvement has on children's reading achievement. Mediation mechanisms remain unclear: increasing time spent on reading, increasing child motivation, modeling of reading fluency by a parent, correction provided by parents; home reading and family literacy programs have a combination of these activities occurring and which one is working best is difficult to tease out. Also, Cao & Ramesh (2014) note evidence for effectiveness of older peers as tutors.

## What We Discover in This Book

To find ways to break through the slow global growth in literacy rates, this research explores primary school students' reading scores and their mothers' perspectives in Malindi District on the coast of Kenya. Mothers, such as Zena, used the term "freedom" in their descriptions of childrearing. The study findings begin to consider ways in which literacy was or was not manifested as freedom within their lives, families, and societies. Mothers' perspectives pointed to the importance of according freedom to their children in their parenting approaches while also identifying constraining forces within their lives. By asking mothers about health, we discovered the

sociocultural processes at play in the social, linguistic, economic, and physical environment factors.

Reading growth on the EGRA in coastal Kenya was linked to commonly considered socioeconomic status (SES) variables. SES was unpacked and defined with more specifics from qualitative data through my field research in Kenya. Reading items, such as letter-sound recognition, which showed growth, suggested the value of the transfer of home language literacy to school literacy learning in the context of Kiswahili and Kigiriama. The disconnection between the two emerged in the qualitative portion of the study. Mothers' responses informed the main factors found in the EGRA data by demonstrating that health is deeply embedded in the home, that health affects literacy learning at school, and that the same environmentally situated drivers affect both health and literacy. What follows is a brief overview of the three key findings that emerged in the quantitative phase of the research with a brief discussion of findings from the qualitative phase.

### Looking More Deeply Into SES Proxy Variables

Three variables collected as student background information in EGRA correlated with reading growth: geographic zone, TV watching in home, and homework help. As no explicit SES measure was taken in the EGRA study, these three variables acted as proxy variables for SES. Geographic zone demonstrated that communities closer to the district's urban center of Malindi town improved more than communities further away in rural areas more distant from Malindi town. Presence of TV gave a similar indication since students who watched TV would have to live in an area with electrification, which would mean more urban locations. Students would need access to power and equipment in order to watch TV.

The third variable, homework help, indicated that students who reported homework help from various family members showed more growth. A family member who helped would need minimal reading ability in school languages as well as some primary schooling. The Tukey's B done on this variable showed that homework help from sisters correlated with the greatest growth in reading scores. Mothers much less frequently were cited as giving homework help, but raised scores when they were reported to help. On the other hand, when fathers were cited as homework help, this variable correlated with a drop in reading scores. These three covariates have tended to be considered proxies for SES since living in an urban area, having a TV, and having enough education to help a child with homework would correlate with higher SES, but also have untapped significance in terms of the social/gender aspect of health and literacy. The caregivers of the child, the mother and the sister, need to be engaged in the child's literacy learning. The father, as borne out in the qualitative data, tends to be more tangential to the child's development and may not have the skills necessary to help in this manner.

*Connecting Home and School Languages and Literacies*

Looking at the numbers from the EGRA intervention, children performed better overall in letter and phoneme recognition in Kiswahili than in English, especially at school sites with an appreciable native Kiswahili-speaking population, such as Noanini. This finding reinforced the literature about using functional home literacy practices to build literacy in school and the desire among focus group participants, such as Kabibi, to have literacy skills so that they could help their children with homework. Bilingual literacy research tells us that giving children richer home literacy practices in home language builds literacy skills in second and third languages. Because some of the children spoke Kiswahili at home and others Kigiriama, which is a Bantu language from which Swahili was derived in contact with Arabic, they did better in the testing that builds on that knowledge. If this linguistic contextual factor has such a strong effect on children's literacy formation, then it must also affect health, and other contextual factors must also affect both health and literacy. This confirmation of the interaction of home and school pointed to the need to dig more deeply into our understanding of these separated development sectors of health and literacy.

*Engaging Mothers' and Children's Contexts*

The set of situational givens of mothers' lives is cyclical and grounded in culture and context. The conditions of their lives do not change in a linear fashion; they are rather endemic in the environments they live in and cannot be simply removed. For example, a clean water source will not suddenly solve the persistent and weather-dependent scarcity of water as the conditions are cyclical and return due to various endemic factors. Analysis of the EGRA dataset demonstrated that the teacher training on reading instruction techniques resulted in improvement in various basic skills of reading in Kiswahili and English. As explained above, in the first use of EGRA in Kenya, the assessment was used before and after a teacher training initiative to see how effective the intervention was, but it has later been used as a country-level snapshot of reading rather than an intervention, curriculum, or teacher training effect gauge. Further analysis found that SES proxy factors, which were urban-rural location, TV watching, and who helps with homework, correlated with growth. Since no further SES or contextual factors data were collected, more exploration was done in the qualitative research phase in these areas. Data from observing site contexts and from on-site interviews and focus groups allowed for a more nuanced understanding of SES, for example. Being poor is neither a static nor a homogeneous state and has many gradations of severity that make a difference in children's and mothers' lives. In South Africa, for example, what may appear to be minor differences in poverty level have been found to be so critical to school attendance and completion that students are grouped by quintiles of poverty for school

fees in secondary school; the lowest two quintiles do not pay fees. The measure of SES or poverty alone without deeper investigation does not tell us enough about the context. Mothers' narratives suggested the disjunctures between Western assumptions about literacy constraints and the realities of mothers' and children's lives.

Mothers' perspectives on their primary students' health and literacy outcomes, as evidenced in focus groups and interviews, built on the salient factors found in the EGRA data analysis discussed in Chapter Three, this volume. Mothers perceived their children's health as being linked to basic needs, which was expressed primarily in narratives about finding and preparing food for their children. This critical building block of health was moderated by the series of environments making up the homes of mothers and families. In Chapter Six, this volume, I take the quadrants of mothers' lives discussed in Chapter Five, this volume, and push further so that the layers of environment making up the home become the drivers of the model. The physical, social, economic, and linguistic environments determined family income generation, mothers' use and access to knowledge and opportunities, and access to water, food, and livelihoods. The homework help variable from the EGRA dataset and its effect on reading growth was linked and expanded on in mothers' perceptions of their children's outcomes and their capacity to help them. Other salient factors of reading growth data: geographic zone and TV watching, also served as socioeconomic status proxies. Mothers' descriptions of their daily lives and the home they shared with their children expanded on SES factors and the complexities contained within these proxy variables.

Mothers described both liminal and multifaceted definitions of health. Good health was dependent on food and articulated at a basic level as whether one is alive or not. Good health also encompassed socioemotional health or psychological aspects of child development, encouraged by appropriate parenting approaches and giving the child "freedom." Mothers articulated ways in which health affected their children's attendance, cognition, and achievement. Mothers also saw their own health overlapping with their primary schoolchildren's health, often in the sense that mothers' health suffered due to their struggles to care for their children. Whereas circumstances differed across the three study sites, there were intersections and commonalities in health issues, such as the endemic nature of malaria. There was also variation in health determined by differing circumstances, such as incidence of cholera and typhoid depending on water source.

In this book, I unpack the environments in the home that affect health and literacy and I incorporate the factors found in these home environmental layers into a model of proximate determinants for literacy learning. In the next chapter, Chapter Two, I present theoretical frameworks for literacy that move toward a cultural model for literacy and will shape the data analysis discussed in Chapters Four, Five, and Six. In Chapter Three, the context of Kenya is examined, both demographic trends and reading assessment.

## Note

1. To read more on these program evaluations, go to: http://www.promisingpractices. net/program.asp?programid=279

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# 2 Theoretical Frameworks

Building a Cultural Model for Literacy

*For many children, a prerequisite will be that attention be paid to oral language proficiency. In order to bring about such change, we argue that it is an imperative that culturally embedded approaches to learning are respected, and where possible, indigenous methods are assimilated into new curricula. The most efficient way of doing this is likely to be by co-opting teachers, parents, older siblings and supports in the community to work with professionals to design new and theoretically underpinned curricula. (p. 38)*

Sonali Nag, Shula Chiat, Carole Torgerson, &
Margaret J. Snowling. (2014).
*Literacy, Foundation Learning and
Assessment in Developing Countries.*
United Kingdom Department for
International Development

International development donors and organizations focus on finding remedies to identified problems, such as, in the case of EGRA (the Early Grade Reading Assessment), a lack of progress in literacy skills among primary school students. This chapter concentrates on a critical analysis of the often-cited reasons for low literacy and interrogates accepted Western development approaches in a quest for incorporating thought that pushes toward new program models and ways of engaging the problem.

## The Poststructural Critique

Modernization theory, human capital formation theory, and the Western development approaches these theoretical camps inspire tend to wear a cloak of universality and totality that leaves them unquestioned. Poststructuralists and postmodernists suggest that no narrative can be universal, no matter what data it claims as support. Similarly, feminist theory proclaims that all discourses are partial; they necessarily exclude and select elements and are, therefore, not complete. Encouraged by these poststructural sensibilities to think beyond accepted narratives that claim to define a problem for all times and places, the study consults literature in sociolinguistics, second

language acquisition and literacy, reading research, cultural psychology, cultural anthropology, and human development to expand and improve the understanding of literacy in post-colonial African contexts. This chapter addresses the need to take into account the local context and the effects that ideas incubated within the Western context have on local African contexts through Western development approaches.

Research about instability and children's well-being in the United States (Adams & Dubay, 2014) also underlines that core elements of instability in children's local contexts traverse Western contexts as well. The theoretical frameworks discussed here and the findings of the field research considered in later chapters are thus transferable. Contexts that vary geographically can share key factors of instability: instability in core relationships, in resources, in setting or place, and in public supports, for example. Specificities of a context are critical to keep in focus as is the case in this research. This study provides ultimately a framework that could be replicated in other contexts. A concept like instability emerges across multiple domains, such as education, child care, health care, and housing and can help make sense of the challenges that come to literacy.

A grounding idea from cultural psychology helps frame this theoretical journey. Jacqueline Goodnow's (1990) term "socialization of cognition" (p. 259) suggests that the context from here shapes views and perceptions of the context there, meaning that one judges the other from within one's own contextual reality, that cognition is inherently a socialized and socially situated phenomenon. This study starts with the reading instruction intervention and reading score assessment created by EGRA, the Early Grade Reading Assessment in Kenya, which serves as a starting point for discussing the assumptions implicit in this type of approach. Examination of accepted development approaches to research and intervention may uncover uncontested assumptions, which may "appear to have a particular objective validity and be the least likely to be reflected upon and recognized as being matters of custom and value rather than of nature" (Goodnow, 1990, p. 282). The socialization of cognition concept implies a need for exploring Western development approaches that are conveyed in matter-of-fact ways and are received by developing country governments as conventional wisdom. These assumptions are not often questioned in terms of the origins, values, and contextual realities that created them or those that will receive them (1990). In this sense, both sides, the donor and the recipient, have been socialized to carry out their roles. Their cognitive grasp of their role and actions to be taken are filtered through a social prism. In this sense, the context from here (in this case, U.S.) shapes the views and perceptions of the context there (in this case, Kenya).

Western-led efforts from the colonial era forward have recognized deficits in African contexts and tried to correct them. These deficits have been described as a lack of educational opportunities for children, lack of health care and stable health status, and lack of rule of law and governance. The

2000–15 Millennium Development Goals (MDGs)[1] and the post-2015 Sustainable Development Goals (SDGs),[2] which call for access to education for all, gender equity in education, and improvements in maternal and child health, reflect the continuing dominance of the prevailing colonial and development era paradigms driven by modernization theory and human capital theory in their focus on getting children in to school, especially girls, as the goal that will result in individual and societal change. Dependency theory, which suggests that recipient countries remain beholden to donor entities and must not question the targets and goals of development aid (Brock-Utne, 2000), is also at play as recipient governments may not have adequate social or financial leeway for creating an education system originating from their own cultural standpoint.

## Critique of Deficit Thinking

The viewpoint of the development community has arguably tended in this respect toward a deficit thinking model (Valencia, 1997) with an impetus toward social change that has characterized interventions. Deficit thinking as articulated in the U.S. holds that students, the large majority of those low-socioeconomic status (SES)[3] minority students, who fail in school, "do so because of internal deficits or deficiencies" (Valencia, 1997, p. 2). This model suggests that when one inhabits this mindset the deficits are considered "limited intellectual abilities, linguistic shortcomings, lack of motivation to learn and immoral behavior" (Valencia, 1997, p. 2). Whereas there is not an overt buy-in by Western developers on each element described by Valencia, the latent tendency toward a deficit approach, citing most specifically "linguistic shortcomings" (Valencia, 1997, p. 2), undergirds Western approaches from the colonial era forward. Much as the deficit thinking model drives educational approaches to low-SES, minority populations in the U.S., the Western aid approach identifies the 'problem' and finds remedies to correct the problem, with the problem being inherent in the culture or person in which it is located. The discourse of "cultural deprivation" in the U.S. in discussing non-white home socialization and the formation of early cognitive modes (Hess & Shipman, 1965, p. 869), and likewise the whole concept of development of Africans with its "strong deficit connotations" (Trudell, 2009, p. 74), promise to make of the minority or colonized people "what they are not" (Esteva, 2003, p. 10). The term *deficiencies model* may best describe the Western development paradigm described here as within children's developmental environment, various sub-par conditions are recognized and acted on in development: school, home, health, and gender being four of the often-cited deficiency areas (Greaney, 1996).

It is important to emphasize that the development community is heterogeneous. While discussing founding ideas and theories that guide Western development, one should recognize that organizations and actors vary widely in approach and practice as well as in theoretical underpinnings.

This study argues instead that, given the socialization of cognition of U.S. developers, deficit thinking cannot be discounted as an influence and inquiry must entertain critiques of the prevailing deficiencies model. This chapter focuses on the prevailing development and literacy discourses, the basis for literacy assumptions in the Western development paradigm, the barriers pointed to for attaining literacy in developing countries, and the role of home and health factors within the paradigm. Then, the chapter turns to an examination of what the paradigm ignores and misses, and how language and culture surround literacy, by interrogating indigenous critiques of the Western development paradigm in sociolinguistic and reading research. Finally, this chapter moves to constructing a cultural model for literacy using human development, cultural anthropology, and African feminist arguments. Figure 2.1 below shows how each layer of analysis and various literatures within those layers are embedded within one another in this chapter. Etic and emic, terms used in anthropology and the social and behavioral sciences, refer to two kinds of field research and viewpoints: etic is an outsider's or the observer's perspective and emic is an insider's or the research subject's perspective. The literatures explored that make up part of the Western development paradigm connect to an etic approach, whereas the literatures consulted that are grouped as indigenous critiques and the gender perspective connect to an emic approach. These are helpful vantage points to position the literature depicted in the figure below, but will also return to our discussion in Chapter Six, this volume, and elsewhere in considering how to move forward in sociocultural literacy policy and programming.
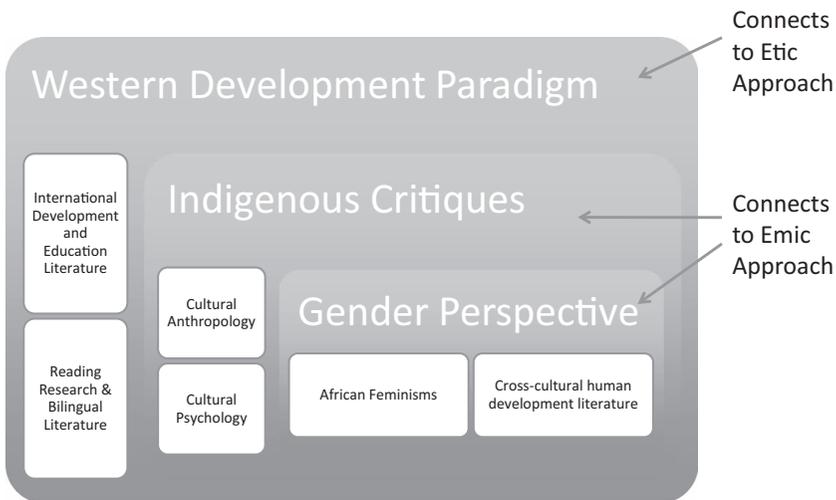


*Figure 2.1* Literature Framework

The overarching worldview of this study is pragmatism with an emphasis on "*shared meanings*" and "*joint action*" (Morgan, 2008/2007, p. 53). A pragmatist worldview asks that the theory in use, which in this study is the prevailing paradigm for literacy development shaped by human capital formation theory, be checked by inquiry into the people and conditions it affects. The shared meanings of health and literacy should reflect how these terms and ideas are understood and acted on among the people being addressed within the literacy theory and practice.

The literacy models being used should be built continuously through this kind of shared reflection and tinkering of all involved parties, but especially recipients of literacy interventions, who tend to be acted on by donors and implementers rather than be actors themselves in building theory and practice. Thus, this study's interests revolve around quantitative and qualitative research methods communicating with one another, instead of standing in opposition to one another. In addition, the worldviews engaged in each phase of this study—etic and emic—also do not set out to stand in opposition, but rather to build one from the other and to answer questions between one another. The overarching research design is explanatory sequential design in which quantitative data analysis is followed by qualitative data collection and analysis that examines causal factors assumed in the paradigm that drove the literacy intervention and quantitative reading dataset. For an extensive discussion of this study's research methods, refer to Appendix A: Research Methods.

## Examining Literacy Approaches

Bartlett (2007a, 2007b) and Street (2001) discuss literacy approaches by questioning the motivations and orthodoxies of reading goals. Bartlett employs Street's discussion of literacy models to initiate arguments about prevailing literacy paradigms. An autonomous model of literacy (Street, 2001) characterizes many literacy interventions. Literacy is viewed as a skill learned gradually as an individual moves through universal stages of cognitive and physical development. Literacy will result in individual rational thought, intellectual development, social development, and economic mobility. This model assumes a homology between the individual and society and predicts that literacy at the individual level will result in economic, social, and political development at the national level. It tends to isolate literacy as an independent variable and claims to study its consequences, such as economic take-off or cognitive skills. It understands literacy in narrow terms and ignores the diversity of literacy practices. It privileges certain kinds of literacy and ways of using literacy and disregards the arbitrary nature by which some practices are elevated as superior to others. This way of seeing literacy prevails in popular discourse and policy.

An alternative model for literacy becomes what Street (2001) calls an ideological model of literacy. In this model, literacy practices are linked to

cultural and power structures in society. This model places literacy in a social context and links literacy to cultural and power structures while questioning who defines literacy and what counts as literacy. It recognizes the variety of practices associated with reading and writing in different contexts.

Bartlett's article (2007a) on bilingual literacies discusses the deficit model, difference model, and an alternative disabling and enabling model. In that alternative, rather than a deficit or difference, culture is perceived as disabling some and enabling others. Rather than allowing presumptions about learning or cognitive ability to guide, the focus can instead be the processes of schooling made up of social interactions with others, all encircled by the social and cultural structures of the larger community. The idea is that educators are consumed with what students are learning and how well they are doing within the proscribed curriculum, but need to pay attention to the school's discourses and rituals. These practices are institutionalized within the school and are implicit in producing success and failure (Bartlett, 2007a).

### Development and Literacy Discourses

Three current discourses on sustainable development (Trudell, 2009) include education and literacy as driving forces for raising incomes and spurring economic and human development. These three variations move from the first and most economics-focused World Bank stream to the more human-oriented UNDP (United Nations Development Programme) discourse and finally to the human-driven capabilities approach. A sole focus on economic development diminishes across the three, whereas engagement of women increases across the three. Education and literacy importance remain relatively constant across the three. All three are rooted in modernization theory and human capital formation theory with important differences in focus as described.

### Economics-Focused Discourse

Trudell (2009) identified three major discourses of development starting with the World Bank stream, which "describes sustainable development in terms of economic reform and indicators, as well as social stability and environmental stability" (p. 75). This first one hews most closely to the colonial-era and post-colonial-era theory, which shared a call for modernizing traditional societies in sub-Saharan Africa through Westernization and a linear process that would take African countries through a series of steps leading to industrialization (Phillips & Schweisfurth, 2006; Nordtveit, 2010). Trudell connects this first discourse to the World Bank and the International Monetary Fund, which grounded their institutional rhetoric and action in an economic view of development. Human capital theory as a corollary of modernization theory specifically sees education as a human

capital investment that will yield pay-offs in the labor market and drive economic growth (Phillips & Schweisfurth, 2006).

*Critiques of Economics-Focused Discourse*

A series of assumptions about how development will unfold in Africa under-lie dominant Western approaches. These assumptions are embedded deeply in the first discourse discussed above: an economic philosophy toward devel-opment that favors the ability of an individual to change the social order through becoming educated in Western-style schools. This paradigm also assumes that Western-economy-type jobs in sciences and business will be available to graduates and that an economy will arise in the not-too-distant future to mirror those in Europe (Ntarangwi, 2003). Education goals have targeted getting more children into school and improving teacher compe-tence. Again, in this mindset, mass education in Kenyan schools will lead to higher family incomes and better health.

   Samoff (2003), in critiquing World Bank approaches to development, argues that education's main task in Africa is to reproduce the economic, political, and social order—not to focus on learning how to learn, as in the transformative and liberating vein of Paulo Freire. Governments and educa-tors in Africa continue to articulate their education policy from a human capital formation theory base (Samoff, 2003). Africa's postcolonial govern-ments maintained their dependence on foreign support by continuing to engage the capitalist economy imposed during colonialism. Continuing on this path, unemployment is attributed to miseducation because the educa-tion system did not adequately prepare the student for the labor force. Rel-evance in this paradigm becomes simply whether or not students do well on national exams, never mind whether they can generate new ideas or build critiques of existing ones (Ntarangwi, 2003; Samoff, 2003).

*Human-Oriented Discourse*

Trudell (2009) attaches a second dominant discourse of development to UNDP in which "the hegemony of economic parameters of development is vigorously contested" (p. 74). The UNDP denies that average national income can be an adequate measure of human well-being. By the 2007/2008 edition, the UNDP's Human Development Report was using development indicators of life expectancy, education, and literacy levels along with Gross National Product. Trudell (2009) points out that, as a result, the Millen-nium Development Goals (MDGs) laid out criteria for development that included "gender equality, poverty and hunger, control of disease, environ-mental sustainability and global partnerships for development" (p. 74). The World Bank, notwithstanding its interest in economic indicators, played a role alongside the UNDP in drafting and agreeing to the MDGs.

### Human-Driven Discourse

Whereas these first two development discourses aim to "establish measurable criteria" (p. 74) for human well-being, a third line of thinking looks at the "less measurable aspects of development" (p. 74), such as the expansion of human freedom and the removal of impediments to freedom (Trudell, 2009). Out of this perspective, championed by Amartya Sen, the human capabilities approach has emerged. The approach focuses on what a human being is capable of doing and being, given his or her environment, culture, and situation in life. Human agency is a pivotal concept in the human capabilities approach; one's ability to act and bring about change in one's life constitutes agency (Sen, 1999; Nussbaum, 2003; Trudell, 2009). The Central Human Functional Capabilities grew out of this third discourse and is discussed in relation specifically to women's lives in developing countries; it constitutes a list inspired by the capabilities approach that serves as a universal manifesto to be applied in disparate cultural contexts in harmony with local attitudes and conditions. Within the list, Nussbaum makes reference to the language of thought and imagination needing to be cultivated through education and reading: "Being able to use the senses, to imagine, think, and reason—and to do these things in a 'truly human' way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training" (Nussbaum, 2003, p. 352).

### Role of Literacy in Development Discourses

In any of these discourses, language and literacy figure prominently. In whatever way sustainable development is defined, "enhanced human learning, communication and critical thinking are key components" (Trudell, 2009, p. 75). In other words, literacy is viewed as a critical tool for development, whether the perception of development hedges more toward economic development or human well-being development. These discourses that Trudell outlines flow from modernization theory even if the second one professes to care more about human well-being than the first and the third focuses on less measurable aspects of one's well-being. The dominant development paradigm and debates referred to here define and contest discourses that flow from modernization and human capital formation theory. Three modernization theory elements characterize, to varying degrees, these discourses and the approaches that come from them: a faith in individual change bringing societal change regardless of the societal and political-economic structures in place; a view of girls and women as recipients, rather than agents, of development; and a gender-driven discourse on equity that ignores the intersections of gender with socioeconomic status and ethnic group (Phillips & Schweisfurth, 2006).

In a more human-centered discourse, the second of Trudell's three discourses, increasing access to education and raising literacy levels, still receives effort and attention although the educational quality issues surrounding these goals is not confronted. The third discourse, the human capabilities approach associated with Sen and Nussbaum, views education not just as a global fight on behalf of developing world population and women in particular, but as a locally held battle that emanates from within developing world communities and cultures (Nussbaum, 2002, 2003).

In considerations of literacy and language within these sustainable development discourses, an unspoken assumption or a major overlooked factor underlies the role and importance of literacy efforts: the languages in which the child learns to read at school. Using non-local languages in the process of development by offering reading instruction from early childhood onward in English, as is the case in Kenya, makes numerous assumptions. First, this practice assumes that learning the European, national language by a student will lead to societal change and increased incomes through activity in the labor market. Second, it also appears to assume that Kenyans learning to read in English would lead to a shift to speaking the official (European) language in the home, so that the reading process would be less cumbersome for the next generation as they would be surrounded by English in the home. Third, these changes would result in improved reading achievement for Kenyan students at school. In the third of Trudell's discourses, these assumptions are coupled with the idea that human agency will increase as a result of attaining literacy, as will family income, and health and education outcomes will improve.

### Literacy in English

Speaking in terms of global Englishes, McKay and Bokhorst-Heng (2008) call Kenya an Outer Circle country in that English is an official language used primarily outside the home and serves as the language of instruction in secondary and tertiary education (although in Kenya it is also being used often for instruction in primary school). In an Outer Circle country, the society must grapple with the social inequities inherent between those who attain sufficient English for higher education and those who do not and determine how to distribute time in schooling appropriately among English and local languages to facilitate multilingualism. Ironically, in the colonial British system in the early 20th century, schools were using local languages so that the African students would remain, theoretically, in menial jobs without access to the colonizer's language (White, 1996). To correct for this colonial practice, bring Kenyans into global competition, and drive economic growth, postcolonial schooling favored English as the language of instruction rather than any local language. In arguments for the use of the official language as language of instruction, establishing unity among the country's diverse groups is offered as a reason for primary education in the national language (along

with costs) (Holsinger & Jacob, 2001). In Kenya, 69 local languages and more than 69 ethnic groups exist.[4] The languages used in schooling coastal Kenyan children are the two official languages: English and Kiswahili. Foundationally a Bantu language, Kiswahili is widely spoken in Kenya and across East Africa, but it is a native language for less than 1% of Kenyans.

Furthermore, language policy does not reflect the practice in Kenyan schools. The policy does not drive the practice, nor is the practice static from school to school. Commeyras and Inyega (2007) point out that Kenyan language policy specifies "use of mother tongue in primary standards 1–3. This mother tongue could be Kiswahili or another African language of the region. English becomes the language of instruction from standard 4 through university" (p. 265). This policy varies widely in practice from school to school. Often, teachers are not prepared to teach in languages other than Kiswahili and English. Teachers also may not speak and understand their students' local language. The government posts teachers throughout the country; teachers may be teaching in an area where they did not grow up and thus they do not know their students' local language. They are also in need of training in language-teaching methodologies and in particular application of these to specific languages (Kiarie, 2004). Urban-rural variances also underlie differences in educational outcomes as measured by exam results. Urban children usually receive eight years of instruction in English, often supported by home experiences in both English and Kiswahili, while rural students get an average of five years of instruction in English, but without English or perhaps Kiswahili either in their home environments (Mutuku, 2000).

## Barriers to Literacy

Literacy has been addressed as an area of deficiency and as a critical gateway to further student learning and student permanence in school. Several reasons are cited for why young people do not learn to read in developing countries (Greaney, 1996): "inadequate health provisions" (p. 10), "adverse home circumstances" (p. 13), "gender inequities" (p. 14), and "adverse school factors" (p. 16). These reflect as well the deficiencies model underlying the way African contexts are viewed. Studies in industrialized nations also have identified differences in home conditions and school deficiencies as explanatory factors for differences in reading scores. Studies of literacy failure in the U.S. have shifted the blame back and forth between home and school (Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). While application of the results of most of these studies to the situation in sub-Saharan Africa is limited by the studies' focus on wealthy nations and their exclusion of such factors as health and gender inequality, they nevertheless offer support for our emerging understanding of contributors to poor reading outcomes in the Western development paradigm.

In terms of home factors, in the industrialized world over the last 30 years, socioeconomic status has been documented as a prime factor in reading level

differences among primary students (Raz & Bryant, 1990; Bowey, 1995). Studies have looked at SES factors that covary with reading skills (such as the quality of the home literacy environment and the quality of school instruction) and reading-related abilities (such as phonological awareness) that are influenced by SES (Hecht, Burgess, Torgesen, Wagner, & Rashotte, 2000). While health and gender inequality are not considered in these wealthy-country reading studies, the factors identified as influenced by SES mirror issues identified as constraining reading achievement in developing countries, namely home conditions and school deficiencies.

In reference to home-based constraints on children's learning due to socioeconomic disparity, an argument has ensued in the U.S. and other Western countries about whether or not the school can act as a successful equalizer for all children. Theoretical positions on constraints on academic achievement have spawned debates between reproductionists and the school-as-equalizer camp. Reproductionists hold that schools reinvent the disparities of students' non-school environments (Bourdieu & Passeron, 1977; Oakes, 1985; Gamoran & Mare, 1989; Condron & Roscigno, 2003), whereas the school-as-equalizer position holds that schools can help erase home disparities and level the playing field for students (Cremin, 1951).

Due to its appeal and popularity in Western countries, the school-as-equalizer idea has perhaps guided U.S. interventions such as EGRA in Kenya. Addressing the home and community contexts of the child within the intervention itself may be perceived as misplaced and perhaps irrelevant to the intervention's goals. In the prevailing paradigm, what is viewed as the pervasive and persistent context of poverty can only be changed through increasing formal school adherence and completion, so the intervention focuses on school inputs to the exclusion of any others. The impulse has been to improve the schools in rural areas so that all children everywhere receive an analogous education regardless of which school they attend. In this way, in a deficit mindset or deficiencies model, placing inputs in the school provides a counteraction to the deficient nature of the surrounding culture and, thus, bypasses the sociocultural context itself by building students who must in essence overcome their own homes to become educated.

### Health Factors

As Greaney (1996) argues, health status and home factors may be adversely affecting children in their literacy attainment. In sub-Saharan Africa, in rural areas, the home has been shown to be as important a factor in children gaining literacy as the school. Previous research pointed to the school as the primary factor of importance for literacy in rural and low SES areas, but these findings have been refuted in sub-Saharan African populations, with the home found to be just as critical. Improving school processes and strengthening home support for children's academic work are both indispensable for eliminating urban-rural literacy gaps (Zhang, 2006).

In international development literature, socioeconomic status mediates both health and educational outcomes. The health-related poverty trap ties intractable health problems to family SES (Galor & Mayer-Foulkes, 2004). Poor health holds children back from attending and performing in school. The health-related poverty trap describes nutrition and health as playing a causal role in the persistence of socioeconomic inequality and in the effects of this inequality on economic growth. This situation describes poor health status that results in a low level of education and an intergenerational poverty trap difficult to step out of without improvements to household health.

Behrman (1996) and Alderman, Hoddinott, and Kinsey (2006) explored the nutrition-cognition connection to see how undernutrition affects school completion and labor market outcomes, finding that measures of nutritional deficiency can predict difficulties in school and in work in later life. The importance of eating breakfast for learning and for child development as well as long-term effects of nutritional deficiencies on behavioral development have been well documented (Simeon & Grantham-McGregor, 1989; Grantham-McGregor, Cheung, Cueto, Glewwe, Richter, Strupp, & the International Child Development Steering Group, 2007). Poor nutrition leads to poor school attendance, but also is exacerbated by socioeconomic status, especially among girls (Mukudi, 2003). Enrollment rates have increased greatly in sub-Saharan Africa, including markedly in Kenya, but completion rates are still lagging behind. Retention and dropout rates continue to be high (Bennell, 2002). In addition, health was an important determinant in permanence in school according to a study in Mexico (Mayer-Foulkes, 2008). Attendance or school permanence could be affected not only by persistent undernutrition rates, but the co-morbidity of undernutrition with other diseases. The window for improving health so that it is not a negative force against attendance and completion at school is the early childhood period (Galor & Mayer-Foulkes, 2004; Mayer-Foulkes, 2008). In other words, stunting as a result of nutritional deficiencies and related cognitive impairment and susceptibility to comorbidity with other diseases has already been established for school-aged children from the preschool years.

The persistence of undernutrition and the chronic nature of many endemic diseases keep mothers and children sick in many developing country settings. Malaria is endemic as well as chronic in coastal Kenya; the disease often recurs several times in children during their early years. The Coast Province has the second highest percentage of children with fever and/or convulsions (symptoms linked closely to malaria) who are treated with antimalarial drugs (CBS, MOH, & ORC Macro, 2004). TB and HIV/AIDS are also prevalent diseases in Kenya. They can affect children directly as well as indirectly through a sick relative or parent in the household. Diarrheal disease prevalence is also significant, particularly in the Coast Province with 22% of children having diarrhea in the two weeks preceding the DHS (Demographic and Health Survey),[5] which was noticeably higher than the national rate of 16%. Given these rates of diarrheal disease, it is not

surprising that approximately 39% of all Kenyans live without access to an improved water source (CBS, MOH, & ORC Macro, 2004), which results in a high incidence of diarrheal disease and other water-borne diseases.

Access to health care in rural areas in Kenya is also markedly lower than in urban areas (CBS, MOH, & ORC Macro, 2004). The choices parents make about when and where to seek treatment for their child prove critical to the child's survival. Delays in seeking care often make the difference between positive and negative outcomes for mothers and children (Thaddeus & Maine, 1994). Decisions about treatment-seeking are often made by fathers, who may not understand the gravity of the symptoms they are seeing and may also be hindered by assuming that they are unable to pay the cost of care. Molyneux, Mung'ala-Odera, Harpham, and Snow (1999) investigated mothers' treatment-seeking patterns for children in rural and urban samples in Kilifi District of coastal Kenya. In spite of noted differences between rural and urban contexts in demographics and access to health care, the mothers' treatment-seeking patterns were similar: shop-bought medicines were sought more often (69%) than government or private health facilities were contacted (49%). The majority of mothers are treating illness with medicines they can purchase themselves rather than consulting the local health care provider. Mothers may view buying medicines in shops as a lower cost alternative to the health center for a chronic disease such as malaria. Mothers may also start and stop the medicine if they do not see improvement rather than complete the course of treatment (Molyneux, Mung'ala-Odera, Harpham, & Snow, 1999).

Djite (2008) points out the importance of communication in medical information with medical speech already difficult to understand in one's own language. The practice of packaging medical information in 'simple (European) language' persists, but can only "further frustrate the best intentions in the world, and continue the wastage of scarce resources" (p. 109). Fifty years after independence, most Africans being served by health campaigns and clinics are not literate in European, official languages and rely on word of mouth from local health workers if one exists.

In addition, the sub-Saharan African home historically functions in an extended family configuration rather than in the Western notion of a nuclear family. Rather than establishing a separate home, the new wife joins the husband's extended family compound. When she becomes a mother, she is then mothering in the presence of others. The elasticities (Sudarkasa, 2004) of the extended family structure may involve changing constellations of people dwelling in the home, which could change or be disrupted by a sick relative who comes to live where care is available from kin or by a sickness that strikes one of the primary caregivers already residing within the compound. The impact of undernutrition and disease on home care configurations are also mediated by poor access to health care as well as socioeconomic status.

The education level of girls correlates with positive health outcomes for themselves and their future children. Health constraints in the home are

also linked to the literacy of the mother. A mother with more education has healthier kids, who are vaccinated, and experience less hunger and disease (Bellew & King, 1991; World Bank, 2001; UNICEF, 2003; Gachukia, 2004; Herz & Sperling, 2004; Fletcher & Artiles, 2005; UNICEF, 2006; Blum, 2007). Part of this improvement may well come from socioeconomic status improving with mother's education level, but it also emanates from the mother's basic literacy skills. She is able to read health messages, understand signs on buildings, and also function with more confidence in health centers. It is not, then, surprising to report that the educational level of the mother is negatively correlated with both stunting and underweight in the DHS results. It is important to note that women in the Coast Province had the lowest number of median years of schooling at 5.5 of any province in the country, which was two years less than the national median of 7 years of schooling (CBS, MOH, & ORC Macro, 2004). Mother's education level also tends to track with her child's educational achievement as well, with mothers who have completed some primary school more likely to send their children to school.

In summary, international development literature points to SES or poverty as a limitation that spawns entrenched barriers to reading achievement. Escobar (2002) questions the term poverty as the totalizing condition in Africa, Asia, and Latin America. Mass poverty in these regions was a Western discovery of the post-war era (Escobar, 2002, p. 21) and holds inherent deficit connotations. 'All of them are poor' is a stereotypical Western assertion that was also made about the coastal Kenyan sample in Malindi District (part of Kilifi County as of 2010); its reductionist assumptions ignored the fact that gradations of poverty make an important difference in education and health access and outcomes. This mentality also ignores the multiple meanings and definitions of poverty (Feeny & Boyden, 2003). Informed by these reflections on poverty as a defining concept and term, this study uses the term socioeconomic status or SES rather than poverty when modeling the relationships between various factors as it finds out what is symbolic of poverty to the mothers in the qualitative phase of the study rather than simply framing the approach in terms of poverty. DHS data indicate that movement from one quintile to another in SES makes a significant difference in education and health (CBS, MOH, & ORC Macro, 2004), so the differences may seem insignificant to Western eyes, but are not in the local context. One resource, such as ownership of a cell phone, with all else remaining equal, can bring about immense change within a family at the microeconomic level (Aker & Mbiti, 2010). SES provides for a more measured look at people and families rather than wrapping all in the same blanket of poverty.

In turn, health deficits prevent increases in SES. The factors that are influenced directly by SES are many: Maternal factors such as education level, childrearing practices including by whom and how children are cared for, nutrition and disease (if SES were higher, then children would increase food

consumption and reduce disease incidence), and illness control are directly tied to SES. More income would result in access of Kenyan families to health care centers and better prevention of and resolution of sickness. In this model, each of the variables could be tested to see how it affects learning to read. Since SES also has a direct effect on school attendance in the model, the family's economic situation can be tested against its impact on the child's presence at school. Since early childhood nutrition is also a determinant of permanence in school, proclaiming a need for a child to attend school so as to overcome a low socioeconomic background does not address the health-related reasons behind the child's erratic attendance or lack of attendance.

## *Connecting Health and Reading Achievement*

With these endemic and chronic health factors that are described as barriers to achieving literacy (Greaney, 1996) and limitations on improving SES (socioeconomic status) (Galor & Mayer-Foulkes, 2004), some efforts by international organizations have been made at the school level to mitigate these constraints. These efforts have included school-feeding to improve nutrition and caloric intake and training teachers to act as health agents, to weigh and measure students, and to give deworming pills to them. Aside from programmatic approaches such as those, health and education, while demonstrated to interlink, have remained disconnected in research and programs (Bloom, 2005).

International health and education policy goals have not been parallel or interrelated. The two education-related MDGs focused only on access to education, counting enrollment numbers without consideration of what was happening at school: what students were learning, what teachers were teaching, and whether parents were engaged in the process. No MDG targeted any aspect of education beyond enrollment. The value of the MDGs at improving literacy was constrained first by the MDGs' focus solely on access to education (Chabbott, 2007). While MDGs #2 and #3 targeted increasing access to education only, the health-related goals (MDGs #4, #5, and #6) targeted specific decreases in disease rates and mortality rates. If education goals were congruent with health goals, then they would target levels of learning for specific groups. This has been addressed to some extent in the post-2015 SDGs with an indicator proposed about whether children under five are developmentally on track for learning, health, and well-being and indicators planned for proficiency in learning outcomes for primary and secondary school students. Then, student knowledge can be used as a meaningful target in addition to completion of a certain school grade. With education goals more reliable and context specific, more specific goals such as for literacy with a focus on early childhood for building a base for literacy can be used. Chabbott (2007) also advocated for an

assessment of what is lost when learning is delayed, especially given the loss of early years of schooling in developing countries when students enter school at a later age.

In an effort to connect the two sectors in problem modeling so that they can be understood and addressed together and engaged simultaneously in programs, such as EGRA, health and literacy achievement are connected in the following proximate determinants framework. This type of framework is used commonly in public health and population studies, first as a framework for child survival. I used the structure of the Mosley-Chen (1984) proximate determinants framework for child survival to build a proximate determinants framework for health effects on literacy, as seen in Figure 2.2 below. The framework below is consistent with the Western development paradigm described in this chapter.

Given the foregoing description of Western development theoretical underpinnings and viewpoints, reading achievement could be viewed and addressed by current accepted Western development approaches and thinking in this way so as to tie health to literacy. Proximate determinants are intermediate variables that directly influence the risk of learning failure. Social and economic determinants operate through these variables to affect child learning in two major domains in the child's life: school and home. In EGRA, the school is the domain of assessment and intervention. The school domain includes the location (ethnic and geographic factors) and the school physical and human environment (teachers, instructional
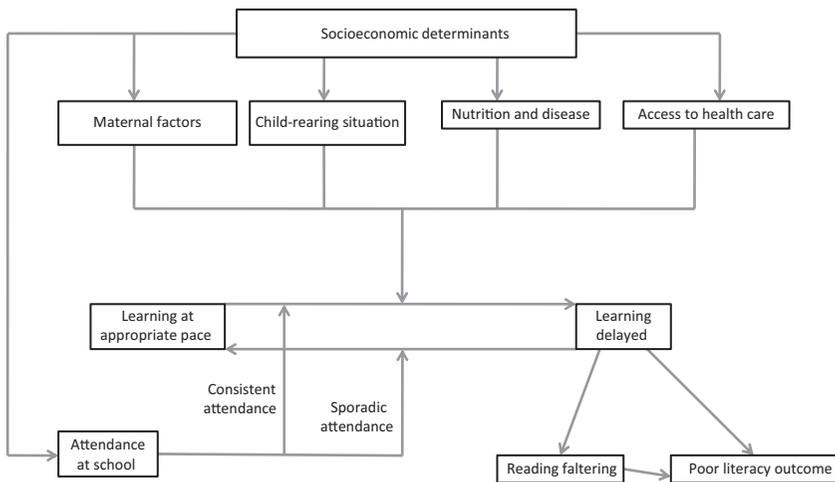


*Figure 2.2* Proximate Determinants Framework of Health Effects on Literacy Achievement. (An adaptation of the Mosley and Chen [1984] proximate determinants framework for child survival)

methods, instructional time, materials, food, water, etc.). In this study and in Figure 2.2 above, the home is the domain of investigation. The home domain includes maternal factors[6] (maternal language and use in home, maternal education level, maternal reading level, maternal support to child, maternal involvement), childrearing situation (number of siblings, gender of child, presence of co-wives, parenting practices, child development factors), nutrition and disease (undernutrition, malaria, TB, HIV, diarrhea, and comorbidity), attendance at school (student's absence related to home factors), and personal illness control (preventative measures: sanitation, quality of care, immunizations, malaria prophylaxis; medical treatment: measures taken to cure disease).

This model is not just focusing on dropouts. The rate of dropouts from primary school is a symptom of these processes identified in the framework. The framework and this study are interested in the health status of surviving, continuing students that leads to low learning outcomes and failure to succeed in school. The idea contained in my adaptation of the Mosley-Chen proximate determinants framework is that in an optimal setting some greater percentage of children than is currently the case would be reading with fluency on various measures at grade two. Social, economic, biological, and environmental forces operate, thus, on learning outcomes. In the dominant Western development paradigm, socioeconomic determinants operate through more basic proximate determinants that influence attendance, support, in-home health, risk of learning failure, and outcomes of faltering learning. Specific diseases and nutrient deficiencies are, for example, biological indicators of the operation of proximate determinants. The independent variable is SES, and the dependent variable is reading outcomes and educational failure or success. These are the cumulative consequences of multiple contextual processes. The child's reading failure is not the result of a single isolated factor, such as a teacher, a parent, or one event in the child's life.

The next section considers what is missing from the proximate determinants framework and the Western development paradigm it represents. Figure 2.2 represents an example of what Robinson-Pant (2004) has termed a technicist framework, as it breaks down a child's literacy formation into measurable bits and conveys a view of literacy and its relationship to health as autonomous and neutral. The framework could be transported to any place in the world and thus, perhaps necessarily, does not incorporate the cultural context. At the same time, starting with a Western development-immersed framework is important. Rather than dispensing with all modernization-inspired models because of their years of use or our years of seeing problems and doing research in this way, my study uses this framework to map, and then adapt. It is important to inhabit the prevailing Western mindset to understand it and then make the argument for a shift and what that shift offers. The final section of this chapter begins

constructing an alternative framework for understanding home and health factors in reading achievement.

## Language and Culture Surround Literacy and Health

Both health and home circumstances are pointed to as constraints on gaining early school literacy in developing countries (Greaney, 1996). These two areas of health and home cannot be separated since health constraints come about as a function of the home circumstances. Home and health factors also exist within a particular physical environment and a specific cultural setting. EGRA is an example of a Western-led intervention in which health and home are not included in the reading intervention. EGRA focuses solely on school factors, another area Greaney points to as a reason for low reading skills. The impulse to look at one area of the education system to cure a specific problem is a common development approach that Steven Klees critiques. Education in development interventions need to address the moving parts of the child's life, not just make finite inputs into one area and expect outcomes to change as a result (S. Klees, CIES conference comments, March 1, 2007). Figure 2.2 above attempts to model health and reading achievement within the Western development paradigm. The model shows how factors identified within the Western paradigm, namely health and home deficits, can be engaged in a literacy framework.

This section moves beyond tinkering within the proximate determinants framework and within the confines of the Western development paradigm. The framework does not address root issues as it is itself entrenched in the Western set of assumptions about literacy in development. What is lacking in this Western development paradigm and the health and literacy framework? An analysis of language and culture and how they are linked to health and literacy is missing. The paradigm in place simply assumes and/or ignores that initial and ongoing reading skills will be achieved in second and third languages, that illiteracy contributes to poor health, and that poor health is a constraint on building literacy. This study is interested in how health holds children back, but is also aware of the need for a proliferation of viewpoints beyond the accepted paradigm. It engages language and culture, forgotten givens in the child's life. The literacy of the last generation's pupils, who are now mothers, holds back the health of the child and also holds back the child's progress in reading. This cycle is rooted in development approaches blind to the givens of the culture, including linguistic and other environmental layers. Investigating the health of the child necessitates investigating the home and the home-school relationship as well. The health and home conditions are determined by inherent cultural givens in the place in which the child lives, which can and must be understood and engaged in new ways.

Theoretical approaches to children's educational progress need to take into account culture and its role in parenting practices and home handling of health and education of the child. Geertz's classic definition of culture still

offers a sound starting point for understanding how culture is understood in this study: "an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men [and women] communicate, perpetuate, and develop their knowledge about and attitudes toward life" (1973, p. 89). The Geertz definition does not sufficiently address the perspective of the person observing or viewing the culture. For this angle, it is necessary to engage critiques of colonial discourse from feminist theory. Minh-ha reminds us that, "culture has never been monolithic and is always more or less in relation to a judging subject. Differences do not only exist between outsider and insider—two entities. They are also at work within the outsider herself, or the insider herself—a single entity" (1990, p. 375). With these definitions of culture in mind, the exploration and discussion of culture and sociocultural processes in this study aims to be grounded in the specificities that mothers describe from their daily lives and the attitudes and perspectives they articulate.

### Sociolinguistic Contestation of the Literacy in Development Model

Thus far in this chapter, the terms reading and literacy have been used interchangeably. At this point, it is important to define the differences between the two as described by Snow, Barnes, Chandler, Goodman, and Hemphill (1991): "literacy is not just a cognitive achievement on the part of the child; it is also participation in culturally defined structures of knowledge and communication" while reading is "successfully mastering a curriculum" (p. 175). Snow et al. (1991) suggest a crucial aspect of literacy; literacy is a lifespan issue and is developed when done sustainably over the course of life. Literacy is the "recognition of complex relationships among reading, writing, ways of talking, ways of learning, and ways of knowing" (Snow et al., 1991, p. 175). Snow et al. (1991) also describe becoming literate as "achieving membership in a culture" (p. 175), which can elicit debate since people are members of cultures without reading in any language, but, at the same time, literacy brings a person necessarily into another culture within a culture in which reading and writing are possible. This concept of becoming a member of a culture of literacy will be important in building a cultural model for literacy in development later in this chapter.

Literacy and the assumptions about how it is achieved do not tend to be critically viewed in commonly accepted development theories or approaches. Post-colonial assumptions about schooling are not questioned at a practical level or tempered by alternatives, either theoretical or practical. Part of this blindness to critical issues of literacy education may come from the lack of comprehensive knowledge about what is really happening in classrooms, what the policy is, how it matches or does not match practice, and how children develop their literacy skills. Not much attention has been given to other elements beyond the socioeconomic differences of children in their

reading achievement. Other cultural and localized issues, such as the child's home language being different than the school language, and what this language difference means for children in light of reading and literacy research, have been mentioned but not sufficiently addressed among development scholars, donors, and practitioners.

For example, the Academy for Educational Development (AED)'s[7] *Success in First Grade* report (2009) focused on how to achieve better reading skills among first-graders. The report mentions oral language and its importance in building reading skills, saying that it is easier to become a reader in one's home language and suggesting that when a child learns in the home language for the first six to eight years, the child does better on test scores and has higher self-esteem. The report also mentions that once one can read in the first language, then those skills are transferred to other languages. Parents also are more likely to talk with the teacher and participate in the child's schooling process when the home language is used. At the same time, in the report, "To speak a home language that is not the mainstream language" (p. 10) is named as an impediment to learning to read at school in the "mainstream language" (p. 10), meaning the official language of the country. The idea of the official European language being mainstream suggests an undercurrent of the deficiencies model described in the first section of Chapter 3, this volume. The mindset underpinning this assertion is that children and their home language are not mainstream in their own homeland. By referring to the national language as the mainstream language, the author seems to be assuming that it is not normal, perhaps even unusual, to speak one's native language in the home. It is not acknowledged that the home language is the mainstream language for the child, not the other way around. The report does not offer a broader or deeper critique or set of suggestions for how to accommodate for the research findings on first and second language literacy. Ultimately, the issue of home and school language differences is instead grouped with poverty and illiteracy as a deficit or deficiency the child needs to overcome through attending school regularly.

The general assumption of sustainable development currents of thought is that the current system of language use in the teaching of reading can work. To achieve success in primary school reading improvement and start them on a trajectory that supports literacy formation, this assertion assumes that the cultural context will be transformed by schooling at the most foundational level: that of the language used in the home. Students and families will eventually become "mainstream" (AED, 2009, p. 10) language speakers, their income and health will improve, and the economy will grow. The approach discounts a body of literature about early language learning and learning to read, which will be considered next.

Western feminists have also glossed over the language issue within reading. In their quest for universalism in feminism, Western feminists do not address this issue of language in literacy. For example, Phillips' gender perspective does not engage language in her call for women to learn to read

(Phillips, 2002). Nussbaum (2003) also does not address the language of literacy in her argument that non-Western women are demanding education for themselves and are not unwitting subjects of Western women's arguments for education on their behalf.

### African and Alternative Narratives

Critiques of the dominant development paradigm of modernization theory have been offered from a neo-Marxist and dependency theory perspective and from a post-foundational theory standpoint. These critiques point out that change at the individual level does not mean that society at large will make a shift. In other words, individual-level change cannot alter the givens of a culture, such as the politico-economic situation or languages spoken in homes. In the Kenyan schooling approaches, Ntarangwi (2003) sees the breakdown of modernization theory as students prepare for jobs that do not exist and learn to lead a schizophrenic life as a Kenyan hoping for a Western transformation. Ntarangwi's cultural critique dovetails with Samoff's (1999, 2003) call for focusing on 'the how' in African education systems. Both scholars suggest looking at how students are learning, how teachers are teaching, and how the system is set up rather than continuing to crunch the enrollment and retention numbers and lament the lack of education for a large number of children without making changes to the system's 'how' aspects.

Bunyi (1999) calls for a look at liberation theory for the Kenyan education system. She suggests that this Paulo Freire-type (1970/2000) pedagogical model would buoy literacy rates in Kenya if employed to engage Kenyans in their own oppression, to give voice to their own context, instead of ingesting the 'banking education' model of the Western education system. Bunyi also addresses language of instruction as a marginalizing force for Kenyans with most Kenyans not staying in school long enough to gain fluent literacy in English, but then leaving school to spend a lifetime trying to be participants in the development process in their indigenous languages in which they do not have formal educational preparation. Ntarangwi's (2003) reflection on the Kenyan education system has connections to Bunyi's (1999) liberation theory critique, but demands primarily a culturally oriented education system. The Western diagnosis of what Kenyans need to learn does not reflect the context in Kenya or Africa as a whole. Ntarangwi (2003) and Omolewa (2007) suggest incorporating indigenous methods of education such as story-telling and indigenous knowledge bases through inviting community members to class and creating lessons relevant to the local context.

Recognizing value in local practice is a first step to realizing that the Western stance toward cultural practices does not need to be eradication or change, but rather understanding and engagement. Breast-feeding provides a good example of an indigenous African practice that has been strongly

embraced anew since the 1970s in the U.S. and other industrialized countries (Harkness & Super, 1992). The three-generation household, still very strong in rural Kenya and across Africa, with its social support attributes, has been pointed to as a critical loss for U.S. culture in which detachment has become a norm for grandparents from their grandchildren (Kilbride & Kilbride, 1997). Understanding and embracing indigenous health practices creates opportunities to capitalize on them for improving skills like literacy, to think outside of the 'fix-it' box and explore an emic or internal viewpoint. The embrace of home language in teaching literacy is an evidence-based literacy approach that the Western paradigm has not recognized adequately or embraced theoretically or programmatically. Literacy efforts have continued in the colonial and post-colonial mindset of teaching official languages as if no other languages existed in the child or in the home. Embracing the songs and sayings in the home languages gives the child his or her home literacy back and provides a kicking-off point for forming school literacy in second and third languages (Serpell, 1992).

Djite (2008) discusses the issue of why the African child must learn to read and write in a foreign language and the many effects these language practices have on people's lives and on the development process, including in the health care system. Trudell (2009) points to the dismal status quo in education quality and progress toward international goals. She calls for local-language literacy as a tool in improving all of these outcomes. Brock-Utne (2000) calls into question the Education for All movement in Africa saying that using the European official language for schooling recolonizes the African mind and makes Africans more, instead of less, dependent on the West through the use of foreign languages in schooling. The Asmara Declaration of 2000, issued by a conference of writers and scholars from all over Africa, "proclaimed that all African children have the unalienable [sic] right to attend school and learn their mother tongues and that every effort should be made to develop African languages at all levels of education" (Commeyras & Inyega, 2007, p. 262). This suggestion echoes longstanding critiques of Western activity in Africa, such as that of Wober who asks that African social scientists consider becoming "more modern by not being just western" (Wober, 1975, p. 215). At the least, Western approaches and U.S.-led literacy efforts need to recognize and employ research and approaches for language minority groups within the U.S. to start to build a new model for Kenya and other African countries, even if the endpoint is expected to be literacy in Kiswahili and English.

The language of reading instruction has deeper societal effects that reach beyond simply poor reading outcomes for students at school. Literacy education in Kenya remains far from providing for the formation of a critical literacy in which the student is able to reflect on social issues in the home language (McLaren & Farahmandpur, 2001; Biraimah, 2003). The goal is instead submission to and use of two non-home languages in learning to read. At the onset of colonialism and as formal schooling became more and

more widespread, English and school became synonymous with one another. English has not become separated from school or more integrated into home life for most Kenyans in rural areas, nor has it become separated from the colonizer who brought it. An English teacher the research team met during field work referred to the language I was speaking as *Kizungu*, which is Kiswahili for language of white or European people, rather than *Kiingereza*, which is Kiswahili for English (Field notes, March 2009). The state of mind of colonizer and colonized is implicit in this comment by an English teacher in Kenya. This is the state of mind that Edward Said talks about that reaches beyond economic and political power imbalance (Said, 1993).

Trudell argues that sustainable development, defined in any of the three most prevalent ways, including Sen's human capabilities framework, in which development equals freedom to pursue a full life rather than to serve as an instrument of economic production, cannot occur without attention to the language choice in literacy efforts (2009). She provides examples of local language literacy programs that have successfully integrated failed students back into the school system once they achieved a level of literacy in their own home language. She cites field evidence of the link between home language literacy and school language literacy (Trudell, 2009). Connecting school literacy to adult literacy programs would be a sound step to take in order to enter a sustainable literacy paradigm.

### Reading Research and Bilingual Education Research

Bilingual education research in the U.S. rests fundamentally on the argument that children should first learn to read in the language they know best. Since reading is a process of making meaning out of text, it is a barrier to begin this process with words the child does not know. Also inherent in the bilingual education argument is that literacy skills from the first language will transfer to the second language once the child has reached a level of oral proficiency in the second language and can begin to know enough words to start reading (Collier & Thomas, 1989). Emergent literacy is defined as the literate ways of behavior of very young children: pretend reading, pretend writing, oral storytelling, beliefs about literacy, and the recognition of labels. Home literacy is a related concept; it refers to parents' literacy behaviors and preferences and how they are providing literacy to the child (Snow et al., 1991). Identifying these emergent literacy elements and home literacy practices in the child helps inform the teacher about the child's readiness to learn to read.

A three-year-old child has already acquired the range of tenses available to them in their home language. They are already able to use these tenses appropriately to retell a story (Slobin, 1990). Students lose the benefit of this ability when the teaching of reading at school shuts out the home language from the school. Grammatical structures available to the child in his or her home languages will not only affect what he or she is able to tell about in

a story, as in how much agency or definiteness he or she can attribute to actions of characters, but will also affect how his or her understanding of Kiswahili and English evolve. Recourse to the home language in song and story will enhance the learning of those school languages.

Tabors and Snow (2004) use the term 'at-risk' to describe language minority children while making clear assertions about what elements a child needs in order to learn to read in a language. The authors recognize the risk involved in teaching children to read first in a language they do not know. They insist that children need phonemic awareness and phonological representation, which they will access when deciphering print in the target language. They also need comprehensible and pleasurable texts in the target language that will keep them reading so they can continue developing reading skills. Tabors and Snow (2004) echo the National Research Council report finding that learning to read in a second language in which one is not yet proficient brings with it the hazard of reading problems (Snow, Burns, & Griffin, 1998). Tabors and Snow (2004) point out that while Snow, Burns, and Griffin (1998) warn of reading difficulties in the second language, they do not suggest that it will never work. The questions the authors engage are multiple: "How early in the process of first-language literacy development is it risk free to introduce second-language reading? . . . How much proficiency in a language is needed to safely introduce initial literacy instruction in that language?" (Tabors & Snow, 2004, p. 262). Using the U.S. situation as a reference point, Tabors and Snow (2004) ask questions about students whose first language is less common, such as Hmong or Haitian Kweyol, versus larger language groups, such as Spanish-speaking children. Literacy materials may not be as available for Hmong and Haitian Kweyol, and, if the parents of these children are literate, their literacy would more likely be in another language, such as Vietnamese or French.

The trajectory a language-minority child takes in a U.S. setting when thrust into an English early childhood school setting is viewed as the following: use of home language only; realization that a new language is being used, then moving into a nonverbal period in the new language; use of telegraphic (naming people and objects, alphabet, counting) and formulaic language (catch phrases such a hello, good-bye, I don't know); and finally, moving into productive language use in which they are trying sentence structure themselves (Tabors, 1997). Kenyan students would be going through a similar transition when arriving at preschool or elementary school classes. Essentially, in this model, all Kenyan students become language-minority children since they come to school to learn to read in a "mainstream language" (AED, 2009, p. 10) that none of them speak at home. Immigrant children in the U.S. are in an English as a second language (ESL) situation, which means that they are learning English while living in an English-speaking society. Kenyan children are not immigrants in Kenya, but are learning to read in English in a local-language-speaking society, so English as a foreign language (EFL) fits their situation. They are not immersed in an

English-speaking society as are language minority students in the U.S. and this differences makes for disparate school and home inputs.

Tabors and Snow (2004) conclude that multiple pathways exist for supporting literacy in a second language. Some involve ongoing support for the child's bilingualism and some focus only on literacy in English. The authors make three recommendations regardless of the literacy model used as school: Parents should be encouraged to maintain their first language for literacy activities at home. Teachers need to find out more about the language histories of the children, their home literacy experiences, and the language(s) associated with those activities. Teachers need to assess children's early literacy skills through formal and informal means. Children are bringing some skills to the process of learning to read, and teachers need to know what they are and how to capitalize on them.

Cultural anthropology, cultural psychology, and child development literatures set alongside reading research and bilingual education findings about mother tongue in literacy development further buttress the need to engage mothers in research on issues around early literacy formation. Cummins (2000) argues against assimilationist policies in North America that discourage students from maintaining their mother tongues. The message children get is that if they want to be accepted by the teacher and the society beyond their home, they must turn away from their home language and culture and take on sociocultural and linguistic parameters of the culture and language claiming majority or mainstream status. Cummins (2000) points out that any sound educator would and should build on the experience and knowledge children bring to the classroom and that instruction would and should encourage children's abilities and talents. When children's language is ignored and disallowed, children are disconnected from parents and grandparents. This disconnection also ignores basic tenets of cognitivist instructional theory in which the child's cognitive structure must be able to take in new knowledge. In short, learning to read first in a language one already knows will accelerate literacy in English because the ability to read transfers rapidly across languages (Krashen, 2003, 2004). Ignoring the home language in literacy learning not only disconnects children from their home contexts and early educators, but it also contradicts cognitivist and constructivist instructional theory.

In addition, looking further into instructional theory specifically targeted at reading and bilingual literacy specifically, one finds that reading is much more than a psycholinguistic set of steps. Reading is part of language, a situated action within the language (Gee, 2004). Early literacy is a socioculturally situated practice. Mothers, whether teachers, schools or curriculum recognize it or not, are integral in this sociocultural situation of language and literacy. Reading is a sociocognitive process that draws in oral vocabulary and early language abilities, which come directly from interaction with one's mother in the primary languages of the home. So, this study engages with mothers for all of these reasons woven together: because women have been

ignored by development approaches, because women have been ignored in their seminal role within African culture, which is that of motherhood, and because mothers are critical links for the child to both health and literacy.

How can this study move beyond the dichotomizing of mainstream versus marginal, and the resulting marginalization of learners within their own home country? It requires a cultural model that will expand the current paradigm and accommodate critical sociocultural and sociolinguistic elements.

## Building a Cultural Model

The Western development paradigm as described above and as illustrated in Western literacy intervention neglects the culture that surrounds literacy and health. Culture is critically important as it structures the environment for a child's development (Harkness & Super, 2002). Human development is a cultural process. Human development can only be understood within the cultural practices and circumstances of the child's communities (Rogoff, 2003). The person-environment fit tells us that researchers and developers must understand the child's context to be able to consider how to intervene in the child's life (Lewin, 1951/1997). Culture is not only connected to language, it *is* language at some level as the cultural process unfolds around the child in the home language. The appropriate rate of reading is based on Western notions of which languages are needed in the early grades for learning to read and on a Western standard of speed that comes from children learning to read in their native language that they hear all around them. A cultural model for literacy would incorporate the cultural and linguistic processes of the child's life. Instead of ignoring these givens of culture and language in the child's life, practitioners would build a model that engages them.

### *Resistance, Relevance, and Reading*

Goodnow (1990) observes that aboriginal children in Australia resist literacy in English out of a conflict with their indigenous identity. Beyond the linguistic difficulty in the EFL setting Kenyan children are in, this type of resistance could be operating as well at a latent level in Kenya. Kenyan children are identified by literacy experts as struggling and deficient in reading levels according to international standards without recognizing that Kenyan children must shed the early development of a cognitive socialization and cultural identity formed at home with their mother to become steeped in school literacy from which their unschooled mother feels and is functionally separated. The reading delay is then cultural as well as linguistic and will persist if not recognized and addressed through a cultural model. By way of more mundane explanation and using terminology that educators employ readily: Current literacy approaches are not culturally relevant. They result in a loss for the child because of the ways in which social identity affects

what a child will or will not notice, learn, or remember (Giles, 1977; Turner & Oakes, 1986; Turner, 1987).

### Post-Colonial Heritage and Minoritization

Ogbu's (1990) contrasting of voluntary and involuntary minorities in the U.S. and their cultural models brought to school literacy suggests that, if applied to the Kenyan context, the involuntary nature of colonization and historical antecedents of the school system would contribute to lower literacy acquisition. In essence, the schools established in Kenya are creations of the British colonial government; and however much ownership is assumed by the Kenyan government with reforms made since independence, the fact remains that English was brought in by the British, and Kiswahili, while structurally a Bantu language, is at the same time a second language for over 95% of Kenyans. The majority of parents, especially mothers, do not have access to the child's process of learning to read because they don't have access to these languages. Kenyan children and parents interpret their school experiences through this cultural model. As seen in the previous section, the bilingual language debates in the U.S. also tell us that early grade children will not thrive in reading if cut off from their home language and if their parents are not able to take a role in their learning.

In the Western framework, the child is decontextualized. In addition, when the Western paradigm considers the parental situation, it is solely through the lens of socioeconomic status (SES) driving involvement and legitimates the modernization and human capital formation theories. The idea is that if SES could improve through education, then parents would be able to help and connect to the child's education. This burden could be partially lifted and must at least be contested by recognizing that the parents' ability to help the child learn to read and to be part of the child's process of learning are what is critical. The child and parent need to be re-contextualized— Kenyan families' culture and language are not factors that will disappear or be permanently changed into an English-based or European background through schooling.

### Multilingual Contexts and Cultural Mediation

Multilingual, multiethnic contexts have to be not only recognized, but also viewed and used as strengths in interventions. Literature on reading instruction points to the need to build on home literacy skills when building school literacy. Comprehensive approaches that include "youth and family literacy, early child development (ECD), as well as health and nutrition interventions, could help to break a cycle of poverty that is fundamentally intergenerational in nature" (Nordtveit, 2008, p. 405). Using a cultural model as Ogbu described that takes into account the historical antecedents of the condition of poverty takes Nordtveit's programmatic model a step

further. In Ogbu's model, Kenyans have become (involuntary) immigrants into their own education system and are temporarily African, only waiting through their schooling to become European or Western. Kenyans live in their own birth country, but do not have home languages taught to them in their schools. The implicit idea is that Kenyans will become citizens of the colonizing language if they stay in school long enough. Bartlett's (2007b) work on what literacy is and what literacy does requires instead that indigenous literacy practices and an ideological model of literacy be recognized and pursued.

### Language Socialization and Language Education

LeVine's (2003) concept of studying the socialization of the child and what he calls the anthropology of educational processes gives further depth to the cultural model. LeVine makes a distinction between language socialization, which is learning that occurs at home and in social contexts before, outside of, or beyond the curriculum at school, and language education, which is learning through the curriculum in the classroom at school. This distinction is important to make in a setting in which language socialization occurs in a different language (home language) than does language education (school language). To recognize this distinction is to understand the elimination of the mother's critical role in the child's school literacy building and the disconnection between the literacy socialization from home and the literacy education at school. LeVine's concept of cultural mediation refers to how parents filter and select the actions they choose to take on social and economic code-teaching through "culturally formulated goals" (LeVine, 2003, p. 73). Culture, therefore, determines parental investment in their children. Parents do what they deem necessary to advance their children's lives according to the "standards of their communities" (p. 73).

### Environments of the Child

LeVine's (2003) cultural mediation principle is closely tied to environmental factors, which he sees as driving cultural formulas. This study considers the environment to refer to the home environment broadly, including the physical or natural environment. Indulgence in infancy and obedience in child rearing represent two adaptive behaviors designed to either ensure the survival of the child physically or economically (LeVine, 2003). For this study, LeVine's research encourages me to seek out "folk wisdom" (p. 99) from within a given culture, not only to understand the childrearing practices better, but also to learn from these practices and avoid simply purveying middle-class American practices.

Bronfenbrenner (1989) examines the series of systems surrounding the child in context. The ecology of a child's life is the series of systems within the culture in which the child is growing up. The microcontext of the home
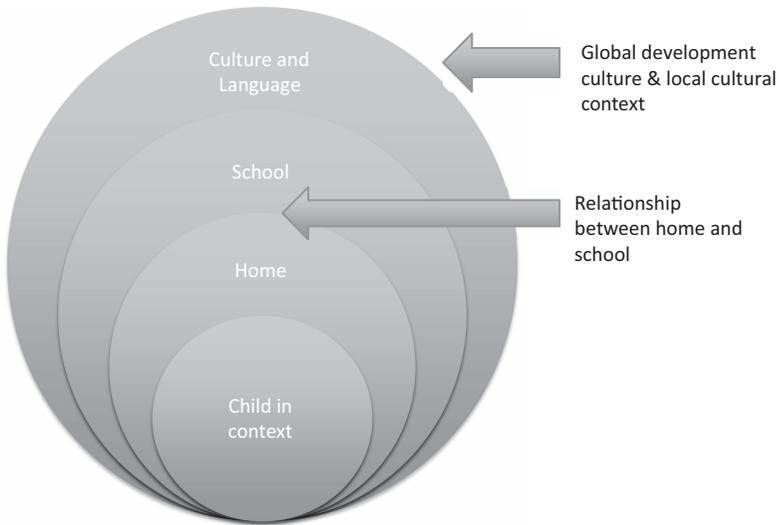
*Figure 2.3* Child Within Series of Contexts. (Adapted from Bronfenbrenner, 1989)

represents the first layer of context to unpack in order to understand the child in context. The mesocontext of how the school and home interact, two sites of importance in the child's life that have interactions with one another, is the second layer to address. Neither of these contexts can be studied without building a cultural model within which the child and microcontext and mesocontext exist. The exploration of culture would fall into the exosystem in the child's ecology, while it also undergirds micro and mesocontexts. The global culture of development and the ways in which it dictates and determines the child's experience would form the macrosystem. The investigation of the home-school connection comes with this set of systems in mind and Bronfenbrenner's exhortation to consider the child's development in context. This ecological sensibility contests the Western development approach at the ground level. Ignoring the contexts in which the child functions and the culture that surrounds and makes up the givens of the child's life is impossible when one's goal is to engage the child's literacy formation.

### Child in Family Environments

Goldenberg, Gallimore, and Reese (2005) use "ecocultural niche" (p. 25) to describe the influences on a child's development that are rooted in family life routines, which are in turn set in a surrounding ecological and cultural niche. The routines of family life in sub-Saharan Africa necessarily encompass certain environmentally driven practices, such as finding and fetching water and firewood, sweeping the adobe floor in a rural household, cooking

on a fire, and going to a "bush toilet" (going to the bathroom under a tree). All of these elements of family life have health ramifications and the ways in which mothers handle these and how they describe keeping a healthy home and a healthy child inform the understanding of home-based health impacts on children's schooling and education.

## Examining the Role of the Mother

As discussed above, investigating health involves the home and, thus, in turn, the child's mother. Health in the home, namely nutrition and disease, care of children, and illness control involve many processes and tasks held by mothers in African settings. Food, water, cooking fuel, bednets, immunizations, cleanliness of the home and the child: These are all preoccupations and responsibilities of the African mother. Since mothers are responsible for the tasks related to primary health practices in the home, it makes sense to talk with mothers to find out more. As discussed, development discourse has increasingly targeted and prioritized the engagement of women. Western development policy has stressed women's empowerment as critical for incomes increasing and lives improving (USAID, 2006; SIDA, 2009). Gender analyses are now required for USAID strategic plans and assistance objectives (USAID, 2010). Nevertheless, engagement of women on literacy has not recognized the deep educational dilemma that literacy poses for child, teacher, and mother. First, if homes are not engaged on the issue of health for literacy, women's challenges in raising healthy children who can attend and learn at school are not being addressed. Second, if homes are not engaged on the issue of learning to read for literacy, women's challenges in raising literate children who can read in two non-home languages are not being addressed.

Because of the primacy of the mother in an African child's life, the exploration of cultural practices as voiced by mothers drives the theoretical approach to a greater depth and uncovers what is seen and unseen. What is seen may be the appearance of the child and the quantifiable scores and outcomes. What is unseen is a whole system of living and rearing that happens in the home and unfolds from the African mother's conception of childrearing and what is important in the child's life. The mother is the caregiver from birth with constant physical attachment to the infant, with perhaps an older child sometimes taking on a caregiver role as well. The mother's role of providing food is central in the culture. She cultivates, harvests, and prepares the food. Women are the "day-to-day heads of household" (Harkness & Super, 1992, p. 445) as fathers tend to keep a physical distance from the mother and children in sleeping and eating, and may acquire more wives who will share time with him. The father often works away from the home, whereas the mother marshals the children in their daily tasks. The father may then spend his evenings drinking palm wine or another drink with friends (Harkness & Super, 1992).

Reversing the way the Western paradigm views mothers by getting out of the deficit thinking model (Valencia, 1997) that characterizes Western readings of third world women (Mohanty, 1991) and shapes the way educational reformists view children's homes would help us build dialogue and improve interventions. Deficit thinking does not allow us to see the sources of power and the elements on which to build. While the gender structure (Risman, 2004) in developing countries may be imbalanced in observable ways, literature also points to the power of motherhood as the primary source of recognizable power and authority for women (Nzegwu, 2004). Mothers provide care for children and their presence and role in the child's life is central to the child's survival and upbringing. African feminist descriptors of motherhood illustrate the lifeblood that is the mother in the African family. They are working moms fulfilling both reproductive and productive roles, an element ignored by Western development approaches until the 1970s and 80s saw the beginning of the women in development discourse. The child-mother relationship within the family is primary and more culturally unbreakable than the husband-wife relationship (Oyewumi, 2003). The bond with mother is also what ties the siblings together. The familial connections are inculcated in the children as a value greater than financial wealth (Nzegwu, 2004). The importance of the family and its work as a functioning unit replace the drive for capitalist gain in African feminist theory. In fact, the point of the argument is that the colonial drive for capitalism and labor arrangements to support it disrupted the most important construct in African society, which was the family unit with its value on motherhood and its function as an economic force in which all members participated.

In this area, the study approach is inspired by the ways in which African feminist perspectives differ from Western feminist viewpoints on women's issues and women in third world contexts and how this critique can inform development approaches. Western feminism has focused on the woman as an individual and advocated the need for women to be viewed aside from their wife and mother roles in developing country settings. Because "marriage is universal" (Harkness & Super, 1992, p. 444), the insistence on seeing a woman as an individual through a Western prism ignores the power that comes to women through this critical aspect of their lives: marrying and bearing children. The exploration of women's roles and perspectives will also consider human development frameworks on human capabilities (Sen, 1999; Nussbaum, 2002, 2003) that ask questions about women's lives in sub-Saharan contexts.

### Mothering, Literacy, and Health

In children's literacy, deficit model thinking leads to flawed conclusions. Schooling and literacy interventions often do not look at literacies that are created in the home language, but rather only the literacies the schools require in second and third languages. Donors and implementing organizations ask

again and again how to improve the child's literacy levels in those official languages without looking at what the child brings from his or her home language proficiency and how to recognize and build on it. These two points of strength within the culture—mothers and home literacy—are linked. Parental literacy is critical to children's literacy (Chudgar, 2009). More educated parents make greater investments in their children's education. The mother's education level has a bigger effect than the father's (Brown, 2006; Zhang, Kao, & Hannum, 2007; Kong, 2008). Maternal language and childdrearing have an impact on bilingual children's vocabulary and emergent literacy (Hammer, Davison, Lawrence, & Miccio, 2009). Mothers, as the primary caregivers to the children, provide the child with linguistic interaction that builds the child's receptive and productive vocabularies in the home language. Mothers who are illiterate in the official languages are still fully conversant in their own home languages. Tapping into home literacy skills can inform school literacy practices. Mothers also can be brought into the equation at school so that they continue to be active in their child's languages formation and not cut off from it.

The mother as the primary caregiver is the critical literacy link for the child. Children gain early literacy from their mothers through their formation of receptive vocabulary in the home language and then productive language in the home language. At the same time, the educational impact that literacy has on women shows that becoming proficient in a register of speech that is different from daily conversation and in which written discourse is involved (Snow, 1990; Valdes & Geoffrion-Vinci, 1998) benefits women and their children. Literacy has increased child survival by enabling women to comprehend public health messages (LeVine, LeVine, & Schnell, 2001). Schooling and classroom interaction have inculcated an engagement in a teaching role with her children and student role with authoritative figures, such as doctors or nurses (Heath, 1982/1986; Cazden, 1988; LeVine, 2003).

Investigations into the home and the home-school connections lead to the mother's literacy. Parental involvement in their child's process of learning to read leads to reading success. Latino children's literacy was reinforced by building on the home connection to the school to improve reading progress (Goldenberg, Gallimore, & Reese, 2005). In the study, the mother taking classes correlated with kindergarten achievement of her child. Parent involvement is critical to children's literacy achievement, but this training must be done in a sustained way. A cultural model of literacy development must be elaborated with reading proficiency shown to emerge with continued contact with texts, an activity that children partake in each day rather than an exhortation to read aloud to children.

Since mothers are often considered illiterate by school-based measures in African contexts, their education of the child in the home is bifurcated from the school's education of the child. A mother who speaks the home language and does not speak the languages used at school will not be able to

speak with the child in the school language; and if she is not literate in either of the school languages, she will not be able to read to or with the child in either language. Eliminating these skills by ignoring them in the child and the mother's role since she is illiterate (in the school languages) does a disservice to the child and the mother. Egbo (2000) notes that unschooled mothers report being just as interested in their children getting an education, but are less effective in providing support to their children in their education. Robinson-Pant (2004) points out that in literacy discourse and policy emanating from Western sensibilities, the main reason given for promoting women's literacy is to improve her role as a mother, so that mothers are able to follow their children's school work and may become able to help their children. Literacy programs for women as a human right and for individual development is rarely heard, argues Robinson-Pant. She also cites studies commissioned by the World Bank to justify their direction on women's education and warns against this set of arguments, which do not question the type of education or whether the illiterate woman could be a cause rather than a symptom of underdevelopment.

From a childrearing angle, LeVine contrasts Kenyan (Gusii ethnic group) and American (Boston middle-class) mother-infant communication, noting the differences in how much talking to the infant occurs and how much time the infant spends isolated and connected physically to her mother (LeVine, 2003, p. 220). These observations pertain to our interest in mothering and literacy in that patterns of childrearing make a difference in the creation of receptive and productive vocabulary (Heath, 1982/1986). Since this study's interest is in literacy creation of primary school students, it is not enough to make this observation and move on. As mothers' expectations of their child and convictions about what the child needs to know to succeed economically change and shift, her childrearing practices adapt (LeVine, 2003). This is how LeVine argues they were created in the first place. This study sets out to discover how her childrearing and her understanding of health risks inherent in the child's environment are best dealt with. How does she understand her role in creating a healthy environment, a secure and safe home for the child, and one in which literacy skills can grow? Also, if she becomes integral to the literacy processes for the child and is drawn into the school efforts for reading, how will her home literacy behaviors take on a renewed importance to her?

### Western Feminism and Western Development

Historically, first-wave feminism was just beginning as the colonial era emerged. The onset of colonialism in Africa in the late 19th and early 20th centuries coincided with the women's suffrage movement in Europe. What these simultaneous actions in history created for women and cultures in African contexts proved critical to understanding the ways in which Western development and feminist theory approach women and development. The

colonial project was a Western, masculine exercise in which the European powers encountered cultures in which they instituted economic systems, legal systems, and family structures that would mimic and mirror European systems. In East Africa, while British officials were undertaking this colonial task, in England, police were arresting and force-feeding suffragists and the government was turning a deaf ear to fervent calls for women's right to vote. Against the backdrop of these culture wars in Britain, the androcentric and ethnocentric aspects of the colonial era take on a cross-cultural depth.

The impulse to keep women within certain constraints and roles conveyed from Europe to the colonial reading of African family structures. The assumption was that the European nuclear family unit was the norm, to which African families should aspire, or to which Africans would be told and made to aspire through manipulation of the legal and economic systems. When colonists looked at African family units, they saw women bearing and caring for children, working in the home, cooking, and doing many types of domestic labor associated with female tasks in Europe. From this reading, the colonial mindset would find it logical to encourage this separation of women's tasks and roles from men's and build even more authority into the male position in the family so that African families could attain this ethnocentric and androcentric norm of the European nuclear family. As European governments were confining women's rights within historical 'norms' in Europe, colonial governments were reinforcing the authority and primacy of the man of the house through their legal systems, which were laid atop often already patriarchal local systems. Divorce and family law instituted in colonial courts reflected double standards for women in most African colonies; women often could be punished by divorce or imprisonment for adultery, whereas a husband's adultery was not even grounds for divorce.

What were unseen or misread by European, colonial eyes were the African extended family structure and its productive as well as reproductive capacity. The colonial era disrupted the labor arrangements linked to the African family structure in which women generally lived in extended family units with their husband's family, raising children and running their household, while also taking a large role in agricultural production (Courville, 1993). In a polygynous household, wives controlled their own income generation often not only through their agricultural activity within the family, but in market commodity selling and cottage industries out of their homes. The European nuclear family of husband-wife and children did not square with the reproductive and productive aspects of the African family unit. Increasingly, under the colonial regimes, men would travel to find labor outside the home while women were left to shoulder increasing burdens at home with the disruption of family labor arrangements (Bailey, Leo-Rhynie, & Morris, 2000). Women received no opportunity for even the minimal formal education men were offered, and the economic and familial unit's break-up under capitalism brought increasing pressure on women to fulfill all roles in the absence of the men.

Second-wave liberal feminism has likewise been shaped by its ties to modernization theory. Its approaches and theorizing dovetail with modernization theory, and the two have reinforced one another in development. The 1970s brought an awakening to the lack of inclusion of women in development projects. There was alarm that women's lives were not improving due to development efforts and a call for including women in development. The liberal feminist movement in the U.S., begun in earnest with Betty Friedan in the 1950s and Gloria Steinem in the 1960s, focused on the state as a place to exert pressure and gain rights for women. The Percy Amendment in 1973 in the U.S. Congress required that gender sensitivity be included in development projects. An important parallel with modernization theory is the importance of the individual in liberal feminism. This aspect has led many theorists to call for a recognition of women as individuals separate from their mother and wife roles. Liberal feminists continue to see this element as a prerequisite for achieving full human rights for women in developing countries. The 'generic human' thesis has promoted a sense of playing a man's game like a man without needing to express one's uniquely female capabilities, such pregnancy and childbirth (Beauvoir, 1949/2009; Arnfred, 2002). Liberal feminism has sprung from a Western, white, middle class perspective with close ties to the hegemonic Western masculine approaches that it came of age fighting. Strongly tied to its standpoint, liberal feminism has historically overlooked the intersections of gender with race and class in social problems.

Three overarching trends have characterized development approaches for women. The first one, WID (Women in Development), was closely tied to modernization theory and to liberal feminist readings of women in developing countries. The second trend, WAD (Women and Development), came from a neo-Marxist response to WID and to liberal feminist orthodoxy. The third trend, GAD (Gender and Development), could be termed a post-structuralist response to WID and WAD (Rathgeber, 1989). It was post-structuralist in its admonition to look at the deeper structures underlying women's condition. GAD holds that it is not enough to make gains on an individual level or even on a group level, but that if deeper structures of politics and social institutions are not also addressed, then the prevailing gender structure will continue to dominate in spite of gains some women make. GAD advocates examining and acting on women's material conditions and patriarchal structures so as to achieve greater gains for women and for development overall. Unlike WID, which is largely aligned with liberal feminist thought, GAD has links to radical feminism and socialist feminism in its call for examining and acting to address gender structures within societies.

### African Feminisms and Gender Perspectives

Gender roles in Africa in the 21st century as described by Oheneba-Sakyi and Takyi (2006) represent a distribution of labor in which men, as head of household, are expected to provide shelter and financial support, and

women are responsible for household needs, such as cleaning, washing, cooking, and taking care of dependents. African women are also employed often in farming, fishing, weaving, pottery, and trading, either on their own or with others. Women need to secure sources of income when money does not come in due to husbands' death, illness, divorce, or unexpected polygyny. Segregated gender roles date to pre-colonial days, but colonialism and Islam and Christianity reinforced the segregation as well as unequal access to schooling. Some argue that modernization and urbanization in Africa have led to an increase in marriage dissolution. Female-headed households have increased. Already their cultural role was defined in carrying out the critical duties around food and child care in the household; but with a decrease in husbands carrying out their cultural role, women bear the brunt of providing all support and daily sustenance to their child.

African feminist perspectives depart from Western liberal feminism in key areas. Rather than needing to fight for the right to work, African feminists assert that they have always worked and that their agricultural labor is the mainstay of the African economy. They advocate for recognition of their work and its integral role in local and national economies. As for the right to education, Nussbaum (2003) makes the point that women in developing countries fight for the right for basic education themselves, and that this struggle does not just get thrust upon them from Western women. African feminists may agree with her assertion about sharing the struggle for education, but would be interested in examining the goals and principles of education and how the system and schooling environments are set up, what the curriculum is preparing children to do and how it is delivered in the classroom, and how girls will be prepared to be mothers and take on other occupations. The education system itself is a Western construct and needs to be examined and altered for African contexts (Bunyi, 1999).

African feminists, who take pride in their unique contributions to family and community, primarily as mothers but also as members of kinship networks and community groups, depart from the individualism of Western feminism. Women are not separate from the institutions they nurture in African feminist thought, and this location within familial roles is precisely where African women claim their human rights. While some feminisms may advocate women's rights as individuals separate from their socioculturally and biologically determined roles (Arnfred, 2002, Beauvoir, 1949/2009, Stromquist, 1990), African feminists do not tend to call for a separation of women from their roles as mother and wife in order to claim full status as human beings and to be accorded human rights. African women instead claim human rights from within those roles as mother and wife. Women should not have to shed their particularities as human beings in order to claim their humanity. African feminists, thus, claim women's humanness and humanity precisely from their womanhood, not in spite of it.

This point is related to the African feminist refusal of the 'generic human' thesis. Rather than calling for an unburdening of female bodily capabilities

such as pregnancy and childbirth (Beauvoir, 1949/2009, Arnfred, 2002), African feminists embrace uniquely female capacities and the specific responsibilities of being a woman, such as pregnancy and mothering. African women do not want to be like men, but rather be like women in order to claim their own human experience, which holds status and reverence in African societies. An African feminist perspective assigns priority to the essential importance of children and their intertwining with mothers, embodying the pro-natal aspect of African cultures (Zeitlin, 1996).

Finally, Western liberal feminists have assumed the predominance of gender as the instrument of domination in society—both in Western societies and in non-Western societies (Arnfred, 2002; Oyewumi, 2002, 2003). African feminists question this principle, pointing out that intersections with class and race and variations of categories of difference complicate or perhaps predominate above gender in the forces of marginalization and oppression. African feminists can point to the colonial project as an example of racial and ethnic marginalization just as much as gender marginalization. The parameters of these categories and how they intersect and interact needs to be addressed according to African feminist thought.

By categorizing positions on literacy acquisition in developing country settings into prevailing paradigm and indigenous, contesting or alternative viewpoints, the study is able to consider these positions, with their areas of overlap and difference. The methods and analysis of the EGRA data are necessarily steeped in the Western position, but the study also unpacks the problems inherent in only viewing data and populations using a post-positivistic approach. For example, suggesting that the home and the school are deficient as a result of testing reading using only a psycholinguistic measure presents problems. Packaged variables (Whiting, 1976) employed in or ignored by such measures can be investigated further by seeking to unpack the processes that underlie variables such as socioeconomic status and gender.

A study such as EGRA gives us indicators, but does not give us all the indicators needed. The results from the data do not tell how students function in their own home language. If students are participating fully in their maternal language in their homes, then their homes cannot be considered deficient, for example. This study utilizes traditional Western indicators and pursues statistical analysis techniques, while also asking questions about orthodoxies and alternatives in regards to education systems and measures. The study advocates a proliferation of narratives and uses qualitative research methods to expand on and explain the quantitative reading data by exploring the lives of mothers and their reflections on their children's health and literacy. In critiquing the Western development paradigm, the concept of socialization of cognition describes how the Western context-embedded perspective is implanted on the Kenyan context and can result in the negation of the Kenyan child's socialization of cognition, which leads to schooling that demands a rupture with cultural and linguistic identity.

This approach restores what is missing from the Western paradigm without discarding the paradigm, advocating a shift toward a more complete paradigm that accommodates critical, ignored elements, unpacks loaded assumptions, and investigates the processes that underlie packaged variables such as socioeconomic status and gender (Whiting, 1976). Kuhn's paradigm theory says that you never get it right, but remain always open to rethinking (Morgan, 2007/2008). A flaw in a paradigm is when it is a non-moving theory; it is used across time, across place, and across sector. Instead, the paradigm needs to emanate from within the population's culture. This research moves toward a definition of literacy that goes beyond learning the mechanics of reading. Literacy reaches into language, culture, health, and intersects the child's life within every context from home to school and beyond.

## Notes

1. To read more on the Millennium Development Goals, go to: http://www.undp.org/mdg/
2. To read more on the Sustainable Development Goals, go to: http://www.un.org/sustainabledevelopment/sustainable-development-goals/
3. This chapter will use socioeconomic status and SES interchangeably.
4. To read more on ethnic groups and sociolinguistic groups in Kenya, go to: http://www.ethnologue.com/show_country.asp?name=kenya
5. http://www.dhsprogram.com/
6. Maternal factors are included to the exclusion of paternal factors because mothers are the primary child care providers in the home and the mother's education level has been shown to have a larger impact on the child's learning and health than the father's.
7. AED was acquired by FHI (Family Health International) in 2011. The combined organization was renamed FHI 360 at that time.

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# 3 Context Matters
## Relevant Trends in Kenya

*Although EGRA might be a smaller, quicker, cheaper assessment, the early reading activities prescribed to improve achievement demanded profound changes in the standard operating procedures of most conventional primary school systems. (p. 193)*

Chabbott, C. (2015). *Institutionalizing Health and Education for All: Global Goals, Innovations, and Scaling Up*. New York: Teachers College Press.

Chapter Three focuses on the context of Kenya, including the application of global policies on the education and health systems in Kenya, demographic trends, the social and historical context of coastal Kenya, and analysis of the reading scores in the former Malindi District (now part of Kilifi County) in Coast Province. Developing and scaling up a health or education sector solution takes significant work and extensive understanding of the context in which it will be used.

In 2010, Kenya moved to a system of geographic units called counties rather than having districts and provinces as in the previous system. Malindi District became part of Kilifi County. In the map below, all Kenyan counties are shown, with Kilifi County bordering Mombasa to the north on the Indian Ocean coast. Kilifi County was formed in 2010 with the merging of Kilifi District and Malindi District. The county's capital is Kilifi and its largest town is Malindi. Before Kenya's 2010 move to a county system rather than a province system, Coast Province included what are now the following counties: Mombasa County, Kwale County, Kilifi County, Tana River County, Lamu County, and Taita-Taveta County, as seen in Figure 3.1. Because of this recent shift in nomenclature, data is reported as Coast Province or as Kilifi County depending on the year it was collected.

## Global Goals in Kenyan Context

The SDGs (Sustainable Development Goals), or the 2030 Agenda, ratified at the U.N. General Assembly in September 2015, included 17 goals while the MDGs (Millennium Development Goals) of 2000–2015 consisted of

*Figure 3.1* Map of Kenya With Counties
Source: https://en.wikipedia.org/wiki/Outline_of_Kenya

eight goals. In both cases, Kenyan government involvement was central, with Kenya's Ambassador to the U.N. serving as co-chair of the committee drafting the SDGs. As with the MDGs, the SDGs complement ongoing Kenyan government initiatives. Regular reporting was required again for SDG tracking, which keeps the targets at the forefront of political discussions and commitment in Kenya. A Kenyan delegation has participated in global EFA

(Education for All) and MDG meetings consistently over the years of the goals' active implementation.

While the MDGs and EFA goals represented a global commitment to improving education and health, in practice, African governments were often unable to infuse these sectors with additional funding or support, especially given the economic austerity measures dictated by donor institutions (Stiglitz, 2006). Progress toward these global goals has been mixed in Kenya. Kenyan government plans adhered to the MDG and EFA goals, but funding did not always adequately support the policies in practice at district and local schools, and in health clinics.

The Kenyan government touted its progress in attaining universal primary education, citing a gross enrollment rate (GER) in primary schools of 107%. But, GERs that eclipse 100% usually indicate a large over-age-for-grade population, which poses challenges for the education system. Kenyan leadership acknowledged the pressure that the large student numbers placed on infrastructure and teachers, and cited the construction of new primary schools and the recruitment of new primary school teachers as evidence of meeting those demands amid concerns about quality of education. In terms of health improvements, a free immunization program for children under five years old increased rates of immunization significantly ("Interview: President Kibaki," 2008).

In the area of gender empowerment, Kenya has had free and compulsory primary education available since 2003, a measure taken to implement the international agreement CEDAW (Convention on the Elimination of All Forms of Discrimination against Women) in Kenya. The Kenyan government has taken measures to expand free access to secondary education, which has historically been quite limited. Also, the Children's Act, passed in 2001, prohibits female genital mutilation and marriages of minors. These policies have proven difficult to put into practice and enforce, however, and it is not clear how much of a change has occurred in these areas among the Kenyan population. To curb maternal mortality, the Kenyan government eliminated user fees in public maternity clinics and hospitals and the health care system decentralized to serve local needs more effectively during President Kibaki's tenure ("Interview: President Kibaki", 2008).

### Demographic Trends, and Education and Health Indicators

Looking at demographic trends over the past decade in Kenya gives some insight into progress as well. Whereas progress in each of these indicators is noted, the rate of change is not sufficient for meeting global targets and certain areas of need persist, such as rural girls and and women, especially within certain ethnolinguistic groups. Systemic marginalization results in slower rates of progress and less attention to those groups. For example,

when reviewing Table 3.1 below, we find that the total fertility rate has fallen nationally over the decade, but has moved less in Coast Province, where it is 4.3; the rate remains notably higher in rural areas of the province versus urban centers. Also, many new mothers are girls themselves in Coast Province, with 20.8% of females aged 15–19 having begun childbearing, with most of this number being concentrated in the lowest wealth quintile of girls.

The demographics of the education sector in Kenya tend to follow political resource allocation lines, with school enrollment numbers about 10% lower in Coast Province than the national rate. The enrollment rate is notably lower for girls than boys in Coast Province, showing a larger gender gap than other Kenyan provinces. Likewise, median education levels are lower for men and women in the Coast Province. The lowest numbers of schools and teachers to population are reported in the Coast Province as well (CBS, MOH, & ORC Macro, 2004). The secondary school to population ratio is also very high, making attaining a secondary school diploma harder than in some parts of Kenya. In the tiered secondary school system, it is notable that Coast Province does not have a national secondary school, which is reserved for the highest scoring students on the Kenyan primary school completion exam (KCPE).[1] Educational resources and demographics may also be notably low in peri-urban slums around Nairobi, which are multiethnic, but NGO and alternative schooling programs are also more available in those heavily populated settlements than in the rural and distant Coast Province.

Resources for schools fall along the same lines of power allocations; Kikuyu areas, including Nairobi and the Central Province, have been the most heavily resourced, whereas the Coast Province has been the poorest resourced on a per capita level. Reforms in resource allocation strategies

*Table 3.1* Development Indicators for Kenya: 2005 to 2015

| *Most recent data in 2005:* | *Most recent data in 2015* |
| --- | --- |
| GDP per capita income 600.6 | 1227.5 (UNData, 2015) |
| Adult literacy rate (ages > 15) 73.6 % | 78 % (CIA, 2015) |
| Net primary enrollment 76 % | 84 % (World Bank, 2012) |
| Net secondary enrollment 42 % | 56 % (World Bank, 2012) |
| Life expectancy at birth 54 | 65 (CIA, 2015) |
| Total fertility rate 4.9 | 3.9 (KNBS, 2015) |
| Under-5 mortality rate (per 1000) 90 | 52 (KNBS, 2015) |
| Maternal mortality rate (per 100,000) 590 | 400 (WHO, 2013) |

Note: Sources are CIA Kenya National Bureau of Statistics, 2003, 2015; World Health Organization, 2008, 2013; World Bank, 2012; UNData, 2015; World Factbook, 2015.

put in place by the government aim to equalize funding across Kenyan provinces (Malindi District Development Officer, personal communication, March 20, 2009). Lower resource levels and lower literacy levels in the province mean that schools are operating with fewer materials and less space as well as with a less literate population of parents and caregivers. Because economic indicators and health indicators are low in the province as well, one could conclude that homes are generally operating with fewer resources to support their children's educational achievement and literacy. Literacy attainment in sub-Saharan rural areas is just as dependent on the home as it is the school (Zhang, 2006), so children in the Coast Province suffer a double challenge for literacy in their low-resource setting. Zhang (2006) demonstrates that Kenya has an urban advantage in reading scores, which persists even with adjustment for individual socioeconomic status (SES), age, and sex. This advantage further persists when adjusted for school context and resources. Rural students lagged behind urban students in reading scores by a minimum of half a standard deviation.

The cultural dimension of the education system in Kenya demonstrates that certain ethnic groups are perceived as prioritizing education more than others. Study informants suggested that coastal residents neglected the importance of education for their children. These cultural perceptions tend to fall once again along political power lines. But, Coast Province has, in fact, had functioning schools over a longer history than the rest of Kenya. Coast Province has been trading with Arab and Persian traders for thousands of years and, thus, has been influenced and enculturated by Islam. Quranic schools form an important part of coastal culture for Kiswahili-speaking Muslim families. Meanwhile, the cultural context affects the schooling of girls. A preference exists for boys to attend school driven by the greater demand for girls' labor in the home (Bennell, 2002; Blum, 2007) and cultural perceptions of girls' roles.

Educational achievement for the poorest children is decidedly lower in the Coast Province in relation to other Kenyan provinces, and is also generally low countrywide when using wealth quintiles to determine marginalization. Nationally, children in the lowest wealth quintile have much lower levels of education enrollment and completion than the four quintiles above. Transition rates are low in Kenya, with many children dropping out of school between the ages of 11 and 15 (CBS, MOH, & ORC Macro, 2004), and even more notable for the poorest children. These rates are especially high in the Coast Province, where SES, ethnicity, and gender combine to marginalize the population. Thus, Coast Province students experience geographic and ethnic marginalization in comparison to other Kenyan provinces, but also experience the additional marginalization that comes with living in poverty, with significant numbers of children in Coast Province living in the lowest wealth quintiles.

Education reforms in Kenya have been politically driven, sometimes to deal with a contextual challenge such as low nutrition levels for schoolchildren, but never with the preparation and support for teachers that would make the reform successful. For example, President Moi instituted a milk policy during his tenure to combat high undernutrition rates in Kenya. The result was greater burdens on teachers and less instructional time due to the logistical challenges of transporting the milk to schools and serving it to students. Other reforms, such as switching from the British sequence of schooling to an American 8–4–4 system (8 years of primary, 4 years of secondary, and 4 years of college/university), have ignored the preparation required and impact on teachers in rolling out the reform, and have typically been implemented without the input of teachers. The teaching force has historically tended to function at a continual point of weak preparation. For example, in 1987, it was reported that only 30% of teachers had received training, and this was 15 years after a policy pronouncement declaring universal primary education in Kenya (Ntarangwi, 2003).

Health indicators show notably higher undernutrition and stunting rates in Kilifi County compared to national levels. Malaria is endemic with reinfection common throughout childhood (KNBS, 2015). While 26% of Kenyan children under five are stunted (height-for-age index), 40% are stunted in Kilifi County. Seventeen percent are underweight (weight-for-height index) in Kilifi County, while 11% are underweight nationally in Kenya (KNBS, 2015). Stunting is a particularly important indicator for health and education as it is the result of long-term nutritional deprivation and often results in delayed mental development, lower school performance, and altered intellectual capacity. Stunting has intergenerational ramifications as women of short stature are at a larger risk for obstetric complications because of a smaller pelvis. Small women are then at an increased risk of delivering an infant with low birth weight (WHO, 2010). This intergenerational cycle of malnutrition perpetuates itself in this manner and has ramifications for health and education.

In addition, sexually transmitted infections (STIs) are highest in Coast Province, polygynous marriage is prevalent, and high-risk and paid sex for men show higher rates, all of which put women at a higher risk for HIV infection (CBS, MOH, & ORC Macro, 2004). Domestic violence is quite prevalent in Kenya with 30-50% of women reporting abuse after age 15 (CBS, MOH, & ORC Macro, 2004). Transactional sex is also prevalent on the coast with foreign tourists driving the demand, which was quite open and evident in my Malindi town hotel and in talks with tourists and Kenyans alike. In addition, in Kenya, an estimated 1.1 million children have lost one or both parents to AIDS (UNICEF, 2008). In 2004, 11% of children under age 15 did not live with either of their parents and were, therefore, considered fostered. In Coast Province, 7.8% had lost their father, 3.4% lost their mother, and 1.1% had lost both parents (CBS, MOH, & ORC Macro, 2004).

### Social and Historical Context of Coastal Kenya

The history of the coast of Kenya provides a critical perspective for understanding the present state of social structures and educational achievement. These historical antecedents have created a legacy of separation and neglect between the central part of the country where the capital Nairobi is located and the coast. Resources for education and other services under colonial and post-colonial governments have flowed less freely to the coast, which has been viewed as a Swahili and Muslim island unto itself. Resources in the Kenyan education system have been allocated according to a political power matrix (Alwy & Schech, 2007). As mentioned above, provinces with the most schools per student, the highest numbers of trained teachers, and the most secondary and tertiary schooling opportunities are those whose dominant ethnic groups have wielded political power.[2]

Indeed, coastal politicians have never risen to the highest levels of government in Nairobi. The first post-independence president, Jomo Kenyatta, was Kikuyu, as was the president at the time of this book's field research, Mwai Kibaki, and the president since 2013, Uhuru Kenyatta (son of first post-independence president Jomo Kenyatta). Daniel arap Moi, who succeeded Kenyatta, was Kalenjin. The Luo have tended to be on the margins of power, with roles in government, but never holding the presidency. Meanwhile, Northeastern Province does not wield political power and is marginalized and often viewed as an unwelcome annex of Somalia. After the January 2008 elections, in which Kibaki declared victory, international and Kenyan observers disputed the transparency of the voting process. Luo and Kalenjin supporters of Raila Odinga began rallying, rioting, and eventually attacking and killing Kikuyus. Then, Kikuyus began to retaliate against Luos and Kalenjins, and some areas of Kenya devolved into an unstable political situation for a few weeks. Finally, a UN-brokered accord brought a power-sharing agreement between Kibaki and Odinga. The violence fell along politico-ethnic lines and was fueled by the unequal distribution of resources that has come from the matrix of power described above.

Inhabitants of coastal Kenya did not take part in the rioting, which speaks to their historical marginalization and disenfranchisement from the political process (Field notes, March, 2009). A coastal secessionist group became active again in 2008, with the slogan "Pwani si Kenya" or "Coast is not Kenya"; complaints about marginalization and land rights have been raised by the group (IRIN, 2012, October 24). The extent to which this movement traverses various sub-groups is important. Heterogeneous Mijikenda groups are reflected in coastal electoral politics. Historically, with each sub-group inhabiting different geographic areas, sub-groups have not often agreed on land issues, seeing problems within their group as their own and not universal across the groups. Political elites have been happy to exploit these differences to gain power and control (Kanyinga, 1999). In addition, apart

from the Mijikenda ethnic groups, members of other ethnic groups, such as Kikuyu, also live on the Kenyan coast.

Coast Province is made up of several ethnic groups, with the majority of the population being Mijikenda or Giriama (ethnic group made up of nine sub-tribes who speak inter-intelligible Giriama languages) and Mswahili or Swahili (ethnic group made up of native Swahili language speakers) (Mazrui & Mazrui, 1995). The ethnic mixing of Africans, Arabs, and Shirazi people formed the cultural group known as the Swahili, which means "people of the coast." By the 14th century, Kiswahili, a language that is constructed like a Bantu language, but strongly influenced by Arabic, had a unifying influence for some Africans on the coast (Atieno-Odhiambo, 1978). Historians and sociologists such as Mazrui (2007), Atieno-Odhiambo (1978), and Ogot (1976) write about religious and cultural homogeneity as a strong point for the coast, even as the area was politically fragmented. These accounts of the sociohistorical context reveal the impulse to assume that the coast was homogeneous, which would mean Kiswahili-speaking and Muslim, with coastal people in general of ethnic Swahili origins. This assumed homogeneity added to the marginalization of the coast since Mijikenda Bantu-language (Giriama) speakers in nine sub-groups on the Coast did not merge with the Swahili identity (Ng'ang'a, 2006) and, thus, these Giriama ethnic groups were ignored in these accounts of homogeneity.

The coast of Kenya has had contact with foreign traders, merchants, missionaries, and governments for the past 2,000 years, with well-established links to the Indian Ocean trading system. Pliny and Greek merchants as early as A.D. 110 made reference to the coast in their writings. Partly as a result of trade, the coast has experienced a Muslim influence since the 10th century (Atieno-Odhiambo, 1978). The town of Malindi, which was Mombassa's archrival and quite prosperous by 1500, not only established a strong trade in ivory, gold, and beeswax, but also had large plantations of millet and rice. Muslim identities and allegiances were shored up with close relationships with Oman, for example. The sultans of Oman took control of the slave trade in 1698 and maintained a strong presence on the coast all the way through the onset of the British colonial era in Kenya. Attempts were made by various countries to control the area prior to the British colonial era. The most notable were the Portuguese, who were expelled by Swahili towns by the end of the 18th century. No sign of Christianity remained after the Portuguese departure. The region's Islam was deeply tied to lineage and genealogy and made Malindi town strongly resistant to Christianity (Ogot, 1976).

With the British colonial administration established in Kenya between 1900 and 1908, the hegemony of the coast came to an end. Interests shifted inland. Mazrui points out that the hybridity of the Swahili people on the coast was held against them in the colonial discourse. The British considered the Swahili speakers a mongrel people of African and Arab descent. The Swahili mixed cultural identity did not match the colonial norm of dominating indigenous people whose cultural identity had not been connected to

or formed in tandem with other cultures (Mazrui, 2007). In fact, so disinterested were the British in controlling the coast that when the British East Africa Company took over the administration of the interior of Kenya, they considered the coast under the control of the Sultan of Oman.

### Intricacies of Ethnicity, Language, and Early Literacy Policies

The Swahili language gained in dominance and importance, steadily increasing in political, administrative, and economic usage especially in the postcolonial spirit of nationalism in Kenya and Tanzania. As a result of the growth in the Swahili language's breadth and its value and power in national and regional unity, non-native speakers now outnumber native speakers of Kiswahili 30 to 1 (Mazrui & Mazrui, 1995). Native Kiswahili speakers populate the coast and tend to also be grouped together as Muslim and as one of various sub-groups that are of dual ethnic origin, with Arab and Mijikenda ancestry. Mijikenda ethnic groups include nine ethnolinguistic sub-groups: Chonyi, Duruma, Digo, Giriama, Kambe, Jibana, Kauma, Rabai, and Ribe (Field notes, March 6, 2009). These sub-groups speak inter-intelligible languages that are variations of what is often referred to by Mijikenda groups as Kigiriama. (The majority of the focus group participants in this study were native speakers of Kigiriama.)

The relationship of the languages of Kigiriama and Kiswahili in many ways mirrors the relationship of the ethnic groups. Fluidity and fixedness characterize both. An essentialism about ethnic identity is manifest in coastal residents, with tensions observable over land, economic status, and language. At the same time, the languages are tightly related as are the groups. Kiswahili has the same Bantu structure as Kigiriama; one is built on the other. The Swahili people also came to be an ethnic group out of years of intermarriage among Arabs and indigenous Mijikenda coastal residents (McIntosh, 2005). In the rural areas around the town of Malindi, informants in this study referred to native Kiswahili speakers as Bajun. When Eastman (1971) defines the various groups that make up the Waswahili, she describes Bajun people: "The Bajun are Muslim, Coastal, of mixed parentage (i.e. generally of Persian and/or Arab plus African descent), with Muslim names and users of the Arabic script" (p. 230). McIntosh (2005) talks about Kibajuni areas as north of Lamu and also in Watamu, which is a neighboring community of Malindi. The linguistic specificity of Bajun Swahili further delimits the ethnic identity and membership of these Malindi-area native Kiswahili speakers.

### Language Policy

Numerous African and international declarations have affirmed the desirability of the use of mother tongue in education, especially in primary education in sub-Saharan Africa. Among them are: Organization of African Unity's *Language Plan for Action* (1986), *Draft Charter for the Promotion*

of African Languages (1996), the *Harare Declaration* (1997), and the *Asmara Declaration on African Languages and Literatures* (2000). Dozens of UN declarations from 1948 to the present have reaffirmed the principles of multilingualism in Africa and the use of languages Africans know best in education and media (Djite, 2008). Meanwhile, Western researchers and developers are recognizing the need to engage the first language (L1) in the teaching of the second language (L2), but also cite multilingualism as a constraint on literacy rather than recognizing the linguistic context of children in diverse countries as mainstream rather than marginal. This Western habit of naming languages that are not the school language as minority is a mark of the deficiencies approach to development in literacy.

Neither the African-led policy proclamations on the use of home languages in learning to read nor the foundations of bilingual literacy found in Western-led research have resulted in significant changes in early literacy practices in classrooms. A push for children to learn official European languages without recourse to their home languages as they learn to read has persisted in the education system as a perceived shortcut to gaining an education that will make Africans competitive in a global labor market. In Coast Province of Kenya, children learn at school in two languages: Kiswahili and English. For the majority of rural children in the province, neither of these languages surrounds them in the home. They enter school where they hear these two languages for the first time.

The existence of jobs even for those who successfully navigate the education system remains a serious issue. This study, however, focuses on issues regarding children's reading. In an education system driven by exams for reaching the next level and by the need for significant financial investment for entering secondary school, the barriers to completing a full course of primary and secondary education are multiple. These exist for boys and girls and for urban and rural students, although they disproportionately affect girls and rural students.

## Insights From Analysis of Reading Assessment Data

As described above, coastal Kenya is a historically marginalized part of Kenya, separated geographically, culturally, ethnically, and religiously from the seat of political power in the Kenyan capital of Nairobi (Mazrui & Mazrui, 1995). Education indicators lag behind most of the country, whereas health indicators show high undernutrition and stunting rates. Resource allocations from the Kenyan government to the coast have been lower, with a higher student to school ratio and higher student to teacher ratios. School completion and primary to secondary transition rates are also low (CBS, MOH, & ORC Macro, 2004; KNBS, 2015).

In 2007–2008, the Early Grade Reading Assessment (EGRA) provided teacher training to improve the teaching of reading to elementary school children and tested second grade students before and after the teacher training

using a DIBELS-style oral reading assessment. In the Malindi District (now part of Kilifi County) of Kenya's Coast Province, the project, funded by the U.S. Agency for International Development and implemented by RTI International, used an experimental design, randomly assigning schools to treatment or control groups, and measured the effectiveness of the teacher training intervention through the collection and analysis of student reading data. For this book, examining the design and effectiveness of this EGRA intervention allowed for an analysis of current efforts to improve early literacy and provided an opportunity for investigating local perspectives on schools' educational reform efforts through field research in Kenya.

This section presents the quantitative analysis that was the precursor to field research in Kenya exploring maternal home and health attitudes as they relate to reading development of children in this sample of reading scores. This examination of reading data uses a statistical matching technique. The EGRA reading data was used to identify factors that correlate with reading progress from baseline to post-treatment, and to identify which schools experienced low, moderate, and high growth in three outcome variables in Kiswahili and English: letter recognition, word recognition, and correct words read in a passage. This approach demonstrated how development research, such as EGRA, can become more useful when its limitations are recognized and accounted for statistically and also when quantitative data is augmented with explanatory qualitative research to make more sense of the quantitative results. Klees (2008) suggests that inspecting the veracity of quantitative studies involves questioning their structure and assumptions. This section begins that process by exploring quantitative data, its shortcomings in design and results, and offering some statistical remedies for quantitative methods and findings.

Student background information illustrated critical aspects of the child's context that influence literacy formation. All student background data that EGRA captured was analyzed to consider those contextual factors. The literature led me to take note of variables in the EGRA data that could be considered proxy variables for socioeconomic status because no explicit measure or index was made of SES for study participants. The basic health questions added in the post-treatment assessment were also analyzed to the fullest extent possible with statistical methods. The context the child is functioning in, with the home being one major domain and the school another, provides invaluable insight into the child's positioning for literacy learning at school. Health and home conditions in relation to reading outcomes were examined in this phase of the research to the fullest extent possible given the EGRA dataset and what it contained.

The early grade reading assessment data were gathered by RTI in 40 schools (20 treatment/20 control) for a total of 800 cases in baseline and post-treatment samples. The treatment was a teacher training on reading instruction practices. Table 3.2 contains descriptive statistics from the EGRA study.

*Table 3.2* Descriptive Statistics from EGRA Data

|  |  | Pre-treatment Kiswahili | Post-treatment Kiswahili | Pre-treatment English | Post-treatment English |
|---|---|---|---|---|---|
| Letter recognition | T | 4.8 | 20.9 | 21.6 | 29.6 |
|  | C | 4.5 | 20.3 | 23.8 | 20.4 |
| Word recognition | T | 10.0 | 19.6 | 5.8 | 13.6 |
|  | C | 13.3 | 20.0 | 9.1 | 18.4 |
| Passage reading | T | 8.7 | 17.4 | 9.3 | 18.3 |
|  | C | 11.8 | 20.4 | 13.4 | 23.4 |

Note: Adapted from Crouch, Korda, & Mumo, 2009.

The table includes performance on three tasks by control and treatment schools. Scores are very similar between pre- and post-treatment and are statistically not significantly different. The question remained about whether the treatment, which was teacher training on reading instruction, brought about significant change in reading achievement in treatment schools.

### Three Variables Correlated With Higher Reading Growth

Descriptive statistics and a multivariate analysis of variance (MANOVA) with the outcome variables were conducted. The main objective in using MANOVA was to determine if reading achievement was altered by the manipulation of independent variables. The main effects of the independent variables and interactions among the independent variables were investigated. Variables that possibly led to the growth that may have confounded the effects of treatment were sought as well. The continuous outcome variables used in the MANOVA were: letter recognition in Kiswahili, word recognition in Kiswahili, words in Kiswahili passage, letter recognition in English, word recognition in English, and words in English passage. Independent variables tested included: basic health questions (e.g., meals eaten in day, breakfast eaten or not, hands washed before meals, presence of headaches, stomachaches), sex, home language, presence of TV in home, radio in home, pupil's age, parental help on homework, and reading material in the home.

Through regressional analyses, the number of covariates was reduced to three as the others did not have an impact on the outcome variables. Three variables were found to be covariates: geographic zone, who helped with homework, and whether the child watched TV or not. Table 3.3 contains a correlation matrix and Table 3.4 shows regressions with these three covariates. Those three variables contributed to reading growth, with TV and geographic zone acting as a proxy for socioeconomic status. The presence

of a TV in a home or in a community indicates a significant level of wealth compared to peers. Similarly, geographic zones closer to the city showed better growth than those further into the rural areas of the district. The homework help variable suggested that having family members with some level of school literacy was critical for the child. Fathers were most often cited when homework help was available for the child, but those students performed poorly on the assessment. Mothers were cited half as frequently as fathers, but provided a boost to children whereas fathers did not. Help from sisters, which appeared in a smaller section of the sample, correlated with the highest achievement.

Initially, the pupil's age was a factor but, then, controlling for age in the general linear model, it was not significant. Socioeconomic status and

*Table 3.3* Pearson Correlation Matrix

|  |  | *Kiswahili* |  | *English* |  |
|---|---|---|---|---|---|
| Letter recognition | HW Help | .281** | .000 | .080** | .001 |
|  | TV | .057* | .024 | .044 | .076 |
|  | Zone | −.048* | .053 | −.069 | .006 |
| Word recognition | HW Help | .152** | .000 | .162** | .000 |
|  | TV | .065* | .010 | .075** | .003 |
|  | Zone | −.073** | .003 | −.103** | .000 |
| Passage reading | HW Help | .157** | .000 | .135** | .000 |
|  | TV | .061* | .015 | .089** | .000 |
|  | Zone | −.076** | .002 | −.109** | .000 |

significance p<.05 is represented by*, p<.01 by**.

*Table 3.4* Regression with Three Covariates

|  |  | $\beta$ | $t$ | $\beta$ | $t$ |
|---|---|---|---|---|---|
|  |  | *Kiswahili* | *Kiswahili* | *English* | *English* |
| Letter recognition | Zone | −.034 | −1.395 | −.062 | −2.462 |
|  | TV | .059 | 2.424 | .037 | 1.481 |
|  | HW Help | .282** | 11.749 | .080** | 3.219 |
| Word recognition | Zone | −.061 | −2.449 | −.090** | −3.634 |
|  | TV | .060 | 2.388 | .065** | 2.635 |
|  | HW Help | .152** | 6.140 | .162** | 6.601 |
| Passage reading | Zone | −.065* | −2.590 | −.095** | −3.800 |
|  | TV | .055 | 2.211 | .079** | 3.158 |
|  | HW Help | .157** | 6.376 | .135** | 5.488 |

significance p<.05 represented with*, p<.01**

*Table 3.5* Hierarchical Linear Modeling (HLM) Results

|  |  | condition | tv | homework | zone | meals |
|---|---|---|---|---|---|---|
| Kiswahili | estimate SE | 6.6549 | 3.2617 | –0.8812 | –1.3215 | 2.6579 |
| letter | t value | 2.4750 | 2.7596 | 0.6494 | 0.7784 | 2.1691 |
| recognition |  | 2.69 | 1.18 | –1.36 | –1.70 | 1.23 |
| Kiswahili | estimate SE | –0.1520 | –0.5735 | –1.0422 | –0.7559 | 2.9109 |
| word | t value | 1.8815 | 2.0979 | 0.4937 | 0.5918 | 1.6490 |
| recognition |  | –0.08 | –0.27 | –2.11 | –1.28 | 1.77 |
| Kiswahili | estimate SE | –2.1588 | –1.1251 | –0.2557 | 0.02556 | 0.9972 |
| passage | t value | 1.5761 | 1.7573 | 0.4135 | 0.4957 | 1.3813 |
| recognition |  | –1.37 | –0.64 | –0.62 | 0.05 | 0.72 |
| English | estimate SE | –6.8037 | 0.5886 | –0.2163 | 0.3184 | 4.6240 |
| letter | t value | 2.7494 | 3.0801 | 0.7218 | 0.8637 | 2.4063 |
| recognition |  | –2.47 | 0.19 | –0.30 | –0.37 | 1.92 |
| Englilsg | estimate SE | –6.8037 | 0.5886 | –0.2163 | –0.3184 | 4.6240 |
| word | t value | 2.7494 | 3.0801 | 0.7218 | 0.8637 | 2.4063 |
| recognition |  | –2.47 | 0.19 | –0.30 | –0.37 | 1.92 |
| English | estimateSE | –4.1842 | 3.7174 | –0.9580 | –0.4877 | 4.0763 |
| passage | t value | 2.3930 | 2.6682 | 0.6279 | 0.7526 | 2.0972 |
| recognition |  | –1.75 | 1.39 | –1.53 | –0.65 | 1.94 |

Note: Significant at p=.01 level

mother's education level could not be checked as confounders or modi-fiers because those variables were not included in EGRA data collection. EMACK, the USAID project that had been working in many of the treat-ment schools, and World Food Programme, which was providing school lunches at some sites, were tested as covariates but neither was found to cor-relate significantly with reading growth. Among the basic health variables, the number of meals at home, stomachache and frequency of stomachache, and headache and frequency of headache correlated with English reading outcome variables. Also, whether the student felt he or she had learned to read at school correlated with English letter recognition outcomes.

Further analysis with hierarchical linear modeling (HLM) demon-strated that the number of meals explained a significant part of the var-iance and, thus, had a strong effect above and beyond the covariates discussed above. As seen in Table 3.5, the basic health variables of num-ber of meals per day had its own independent effect. Mixed results were found from the HLM on impact of the treatment, so the exact sample match reported in the next section supplied a further test on the effect of the treatment.

*Exact Sample Matching Uncovered Treatment Effect*

Preliminary analyses (prior to sample matching) indicated an arguably small effect on reading scores from the teacher training intervention (see Table 3.2 for descriptive statistics). In order to look more closely at effect size, a sample matching technique was employed. The sample matching methodology began by listing all students in the early grade reading baseline sample. A random sample of 100 students was taken from this sample. For each student in this smaller sample, a match was selected from the post-intervention sample on the three covariates. These three covariates were presence of TV, geographic zone, and help with homework at home. To remove these confounds, the pre- and post-groups were sample matched on these covariates. If multiple matches were found, the subjects were randomly assigned. Subjects could be from different schools because schools did not matter in the MANOVA analyses. Other variables did not correlate with higher reading scores according to the regressional analyses, so they were not considered.

The students in the baseline data were a completely different set of students from those in the post-treatment data. The exact sample matching offered a method for matching students according to like variables. This method was employed to counteract the issue of two different samples by matching the two sample groups on like variables (Felton & Wood, 1992). Exact sample matching was chosen because no further error is introduced as in propensity score matching. Also, the sample was not large enough for propensity score matching once schools were eliminated due to the lack of match on geographic zone. Control schools were in zones one (Central) with five schools, two (Magarini) with five schools, three (Kakoneni) with five schools, and four (Watamu) with five schools. Treatment schools were in zones two (Magarini) with seven schools, three (Kakoneni) with six schools, and five (Marafa) with seven schools. This mismatch on geographic zone of control and treatment schools eliminated 100 subjects from both control and treatment samples as the exact sample match included geographic zone as one of the three covariates. This elimination left just 200 of the 400 subjects available for matching. As Dehejia and Wahba (2002) point out, when the control or comparison group is a poor comparison, then finding a match in order to use sample matching may be even more difficult. In this case, schools that had a direct match by geographic zone were used and schools that did not have a match in their geographic zone were eliminated. Since geographic zone was one of three covariates that made a difference in reading growth, the treatment and comparison school sampling potentially led to greater weakness in the effect sizes and results. Originally, the sample contained (n=200) control and (n=200) treatment subjects. After exact sample matching, the sample sizes were reduced to (n=65) for the treatment group and (n=56) for the control group.

Once completed, pair-wise t-tests were conducted and demonstrated significant (p<.05) group differences for the three outcome variables in both English and Kiswahili. The exact sampling matching yielded stronger effect
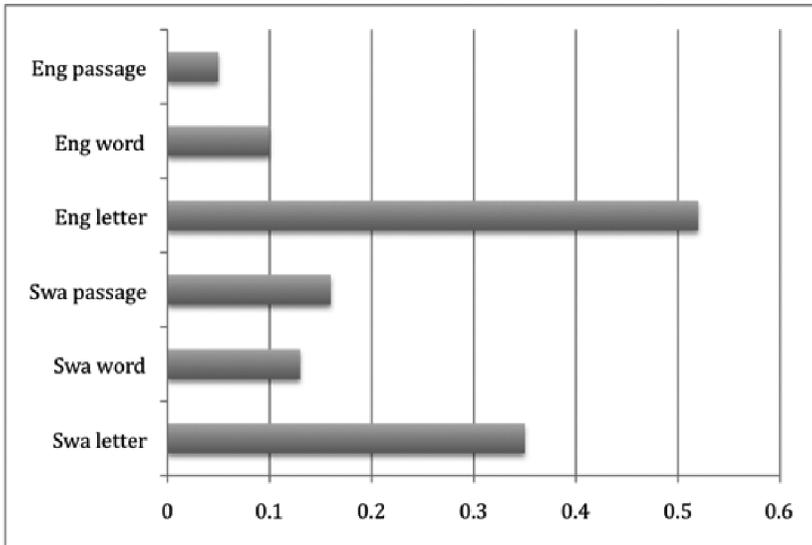
**Note: .20 is small, .50 is moderate, and .80 is large (Howell, 2007).**

*Figure 3.2*  Effect Sizes Among Treatment Subjects When Comparing Control With Treatment

sizes for the six outcomes variables used. Figure 3.2 below contains a bar graph of significance of effect sizes among treatment schools.

The graph shows the difference in effect size between control and treatment students after the exact sample matching was done. English letter-sound recognition showed a moderate effect size. Kiswahili letter-sound recognition demonstrated between a small and moderate effect size. The treatment was effective in these areas when controlling for the three covariates that confounded initial results. If these covariates were considered in the literacy intervention model, then effect of the treatment would arguably improve among students who were affected by those covariates. The effectiveness of the treatment was hidden statistically before the sample match and lessened by the intervention's lack of attention to socioeconomic status and family factors.

## Implications for Qualitative Field Research

Preliminary analyses indicated that, whereas effect sizes were low, there was growth between the unmatched pre- and post-treatment groups (see Table 3.2). Exact sample matching results indicated greater effect sizes (see Figure 3.2). Homework help served as a proxy for maternal education level

and maternal involvement in schooling. Results showed that the mother's involvement was critical in terms of which family member helped with homework. In the qualitative field research phase of the study, mothers of second graders in treatment schools were sampled using focus groups and one-on-one interviews to determine what other effects made a difference other than the treatment, with an emphasis on health factors as a possible moderator for literacy achievement.

Because the treatment did result in an effect, my time in the field was focused on treatment schools instead of including a control school in the qualitative phase of the study. Schools selected for the qualitative research phase were treatment schools with highest growth, medium growth, and low growth to explore health factors that may have constrained the treatment effect. Schools were categorized into three groups with three selections in each category, but final selections of schools were made in the field in consultation with my Kenyan research team and Ministry of Education staff through criterion sampling. In addition to schools' reading growth scenarios, attention to diversity in geographic zone and cooperation of the head teacher (school principal) were criteria for selection.

The three covariates associated with reading growth—geographic zone, watching TV, and homework help—reinforced the importance of maternal involvement as experienced through the mother's role in the child's schooling and the importance of socioeconomic status in children's reading progress. These findings supported the need to engage the home, and mothers particularly, in literacy interventions and to explore in more depth proxy variables for SES, such as TV and geographic zone. SES was not directly addressed or collected in student background data with an implicit assumption by the EGRA model that poverty in the district made all the students the same. This glossing over of the gradations of poverty, and the many components and complexities of the home environment implicit in one's socioeconomic status, served to weaken not only the data collection, but the intervention itself. Student background data from pre- and post-treatment groups also showed, for example, that home language differed significantly in the pre- and post-treatment samples, which was also a factor to consider when assessing reading growth at each school site. These assumptions, loaded with nuance and complexity, were unpacked in the qualitative phase of the research.

These findings also provided insight into ways of deepening statistical methods within the constraints of research designs in development projects and served as a point of departure for the questioning of Western and indigenous viewpoints on literacy, literacy policy, and literacy intervention in developing countries. The basic health variable of number of meals per day, collected from students during the post-treatment assessment, accounted for a significant portion of the variance in reading scores when using hierarchical linear modeling. That finding pointed to the deep connection between health and literacy through one of the principal processes of home life: the availability, preparation, and eating of food.

The qualitative phase was an exploratory endeavor in which these variables and their moderating effect on the salient factors found in the quantitative phase could be tested. In light of the identification of health, socioeconomic status, and gender inequality as constraints on literacy achievement in the literature, perhaps these findings simply confirmed what was already known by scholars and practitioners, but not acted on in literacy interventions in this type of setting. The treatment's success was notable when SES and homework help were controlled for, which pointed to the critical need to bring mothers and family members into the school reading process in order to build a cultural model for literacy especially in multilingual, low-resource environments. In Chapter Four, this volume, the study sites and general information about the mothers interviewed are discussed and, in Chapter Five, this volume, perceptions of mothers about child health and literacy are analyzed and discussed in relation to the salient factors arising in the quantitative EGRA data discussed in this chapter.

## Notes

1. The KCPE (Kenya Certificate of Primary Education) and its secondary school equivalent were instituted in 1985. The KCPE exam score determines which secondary school a student is invited to attend.
2. The British colonial government divided Kenya into provinces along ethnic/tribal lines: Nairobi and Central Provinces were dominated by Kikuyus, Nyanza Province by Luos, Rift Valley by Kalenjin, Northeastern Province by Somalis, and the Coast Province by what are often called Waswahili (Alwy & Schech, 2007), although this categorization for Coast Province did not accurately represent the ethnic heterogeneity on the coast.

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# 4 Local Contexts
## Rural School Communities

*So, that is how to create a single story, show a people as one thing, as only one thing, over and over again, and that is what they become.*

Adichie, C.N. (2009, October). *The danger of a single story*. Chimamanda Adichie, TEDGlobal2009. Retrieved from: https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story/transcript?language=en

Gathering qualitative data at three school sites through observation and interviewing provided specific insights into the life of parents and children in specific local contexts that do not tend to be captured with quantative surveying and assessment. Out of these qualitative data, multiple stories of communities, families, schools, and children emerged and were mined for improving the effectiveness of literacy approaches. In communities that were generally categorized as poor, for example, but without more specifics about gradations and particulars of this broad category, we see through this research differences and similarities among mothers and families that provide further understanding of how literacy learning does or does not connect within people's daily lives.

The first site for my field research was in a coastal town north of Malindi town on the Indian Ocean, which showed no growth in reading scores. Over an hour northwest of Malindi town, the second site demonstrated significant growth in reading scores. The third site, west of Malindi town and to the west of the Jilore Forest, showed moderate growth on reading scores. The choice of sites for the qualitative phase of the study was based on reading growth in the quantitative data, with attention to geographic diversity in the choice of the three schools. After categorizing schools into high, medium, and low growth in reading, I discussed school sites with staff members at the Aga Khan Foundation and the Ministry of Education who worked on EGRA, and with my Kenyan research assistants. These discussions narrowed the choices to the three schools selected and each head teacher agreed for their school to participate. Each site received at least four visits during the four weeks of fieldwork. One visit was for introductions and to explain the study. Two visits were for focus group discussions. Follow-up trips were

conducted if needed to complete an interview with the head teacher or to visit a community location mentioned in the focus groups, but not seen on previous visits. Pseudonyms are used for all school names and participant names throughout this book.

## Noanini Primary School

Noanini Primary School was in the low-growth school category. The school showed the lowest growth in reading scores among the 20 treatment schools from pre- to post-treatment assessment scores; in fact, the school's results showed negative growth: The students scored lower on the post-treatment assessment than the pre-treatment assessment. This village was the closest to Malindi town of the three qualitative study sites, but had negative growth in reading scores, so its results went against the rural-urban findings in the quantitative data analysis. Thus, the site was worthy of exploration for a number of reasons.

Noanini was about 40 minutes by car from the town of Malindi. The village is on the coast of the Indian Ocean, north of Malindi town, with open sea only a kilometer away from the primary school. The population of the village is about 1,000 to 1,500 according to the head teacher. The primary school had 659 students, 14 government-supported teachers, and one early childhood teacher and two primary teachers paid by the community. Two of the school's teachers participated in the EGRA training. One was on maternity leave and was to resume teaching the next term. The other was currently teaching second grade.

### *Religion and Ethnicity*

The head teacher reported that the village consisted of more Muslims than Christians. He explained that, among the Mijikenda, some are Muslim and some are Christian. The Swahili people in this area are referred to as Bajun and this group is generally Muslim. There are a few Wasanya, which is a small group of Cushitic tribes, and a few Somalis. The head teacher said that students often go to preschool at the madrassa (a Muslim school often connected to a mosque), then start at the primary school in first grade. The madrassa has classes for preschool up to secondary level. Some children go to the madrassa every morning, and then return to the madrassa after the morning session at the primary school. The primary school also has religious education, and students attend the course that is in keeping with their own religious tradition. Kenyan curricular policy dictates that first through third grade students go to either Islamic, Christian, or Hindu religious education classes for four periods per week. Religion is, however, an etic variable since cultural beliefs and practices are at work apart from the official religious delineations recognized by the state. As an example of these local socio-cultural systems of belief, on the night before we returned for our second

focus group session, in a village just south of Noanini, a man was murdered because he was suspected of being a "witch" (Field notes, March, 2009).

### Industry, School Donors, and Tourism

Industries in the village are the San Marco Italian Space Station,[1] fisheries, sand harvesting, salt mining, and subsistence farming of crops such as coconuts. The village has a government fisheries department office. The head teacher cited the existence of many community-based organizations: women's, men's, and mixed groups. A beach management unit is also concerned with the welfare of fishermen. The Italian government[2] built new classrooms at the school, equipped with fans, electrical sockets, and light fixtures, but no electricity was available in the town yet. Electricity was expected by June 2009, promised by the Coast Development Authority, which is a Kenyan government entity funded by the Italian government among other donors. The Kenya Education Sector Support Program built a series of pit latrines and some new classrooms, including an early childhood building, where 55 students come in the morning (there was no afternoon session for the early childhood program). An individual from the Netherlands, who came to the village as a tourist, started funding school improvements as early as 2003 and continued to support various school projects.

This site was affected by tourism. Students of all ages expected me to throw them candy, yelling "sweet, sweet" as we passed or saying it to me quietly when I was at the school. Children were accustomed to vanloads of tourists that I witnessed myself driving by throwing candy out as they went. On our way out of town after the second focus group session, students were walking in the road. We drove slowly by and came to an almost complete stop due to the crowd of students; some of the older students started bouncing our car up and down and yelling for treats. A Peace Corps volunteer, the first volunteer ever posted to this village, was also in Noanini to establish more tourism. He explained that the sea and a nearby small island where tourists could go out and camp for a few days were attractions he and some local entrepreneurs were promoting to European tourists. He ran in to see me before we left the first session when he heard another *mzungu* (Kiswahili for "white person" or "European") was in town. He also started a chess club at the school, which, he noted, encouraged critical thinking skills. He said that both boys and girls were coming to the club.

### Free Primary Education (FPE) and School Fees

The head teacher explained that the school provided free primary education, but then listed several fees when asked specific questions. If a student ran out of pens or paper, or an exercise book, then the parent paid for additional supplies. If a student lost a book, then the parent paid for its replacement. Parents paid 100 shillings per term for the teachers that the community

employed because the government could not supply enough teachers. The exam fees were due at every interval: mid-term and end-of-term. Grades one through three students paid 20 shillings, grades four and five paid 22 shillings, and grades six through eight paid 25 shillings. If a parent did not have money, he or she was asked to come see the head teacher.

At the time of the study, the school did not have a school feeding program. At a March 2009 meeting with the District Education Officer, the head teacher was told that every school in Malindi District (part of Kilifi County as of 2010) would be included soon in school feeding due to the drought conditions. The head teacher also cited World Food Programme and the Egyptian government as other sponsors who may be enabling the school feeding to restart (and cover the whole district). He held a parent meeting about school feeding coming to the school. He had names for cooks and thought he would spend about 2,000 per month to pay three cooks. He was also working on who would bring firewood or gas canisters. The cost was not covered by the government, so the parents were responsible. As there was no school feeding program, students could buy from the kiosk outside the school or go back home to eat. The head teacher said that there were lots of fish and coconuts around to eat.

### Water

Water was available for children to wash their hands prior to eating and after going to the latrine. Soap was not available at the hand-washing location. The drinking water for the school was the same as for the town: an open well within the school grounds. The head teacher said that from time to time the health authorities put a treatment in the water.

To drink water at school, one bucket for drinking water served several students and stayed within the school. While waiting for mothers for the first focus group session, women were coming into the school compound, getting water from the school well and carrying it away in buckets on their heads. Each time I was at the school, a little boy came to the well rolling a large container, which he would fill using small plastic buckets in the well, then seal the container and roll it home on its side with his foot.

### Availability of Health Care and Secondary Education

A health clinic, or dispensary, was at the school grounds. Mothers discussed going to the dispensary as well as seeking health care for serious emergencies at the San Marco Space Station, at dispensaries in neighboring villages, and at the hospital in Malindi town.

A form one class or ninth grade, the first year of secondary school, also met at this school. This class started meeting in 2009 because a new secondary school was under construction just behind the primary school. The head teacher reported that this school construction would cost 13 million
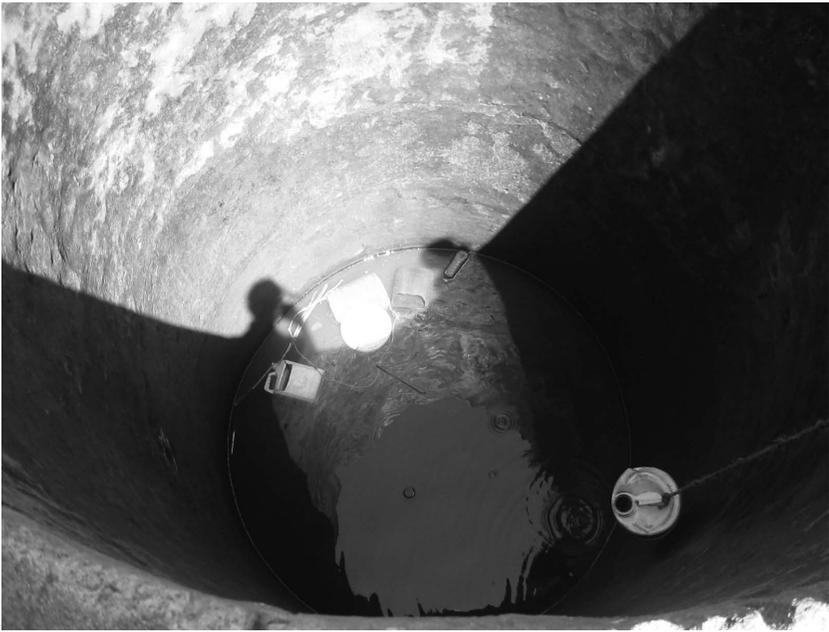
*Figure 4.1* Looking Down Into the Well Within School Grounds at Noanini Primary School



*Figure 4.2* A Woman and a Boy Getting Water from the Well Within Noanini Primary School

Kenyan shillings and would be paid for by the Italian "cooperation" (Italian government funding). Selection of students would be done at another level, with the primary school not having a role in the selection. Students had to perform well on their primary school exam (KCPE exam).

The head teacher explained the difference between different types of secondary schools: National secondary schools require a 400 and up on the exam, provincial secondary schools take students within the range of 350 to 399, and district secondary schools receive students who have scored 300 to 349. If a student scores below 200, it is not easy to gain entry to any of these government schools. The student can repeat the last grade or attend a village polytechnic. Near this village, there were several polytechnics in batik cloth making, sewing, masonry, carpentry, and computers. Coast Province did not have a national secondary school. When asked why, the head teacher said that the location of schools depends on national and regional leaders. The school under construction here may be a provincial school. The facility would be handed over to the District Education Officer when completed. The head teacher supported making it a provincial school because it would "pose a challenge" to students. Other provincial schools in Coast Province were: Malindi High, Ngala Girls, and Gede Boys. This one would be the fourth provincial school.

### Corporal Punishment

At our first visit, a teacher was hitting a female ninth grade student with a switch under a tree in plain sight of our research team as we left the school grounds. The male teacher was using the switch to hit or, as it is referred to in Kenya, "cane" her hands. Other students crowded around. The teacher doing the caning said to our research team as we slowly left the schoolgrounds in a car, "What are you looking at?" in a dismissive way and did not modify his actions in any way due to the research team's presence. When asked about this incident, the head teacher said that the Kenyan government had signed agreements stating that corporal punishment should not exist. He explained that at the school, they tried not to use it, but sometimes did, saying, "You know, the African . . . . " He explained that children have been brought up with the cane for discipline at home, so not using it at school is difficult. He said that the school used it to remind students that "the cane is also one way." I posed questions to the head teacher about motivation to learn and relevance of education to the students. The head teacher offered that in their community education was not relevant to the students; they needed to be encouraged to have motivation from within themselves. He expressed interest in understanding how to work with students to encourage intrinsic motivation.

### Focus Group

Twelve women attended the focus group: nine Muslim/Swahili women and three Christian/Giriama women. Two women came in after we had assembled

*Figure 4.3* First Focus Group Session at Noanini Primary School

our focus group limit of 12 women and a research team member asked them politely to leave. Then, many more women came and the notetaker went out to explain to them that we could not take more than 12 participants. In the focus group, most of the women were fully covered, but some had a whole outfit underneath: jeans or patterned pants peaking out the bottom of the *bui-bui* (black garment that covers the face, head and body). Based upon my travels in countries such as the United Arab Emirates with similar styles of dress, I assumed that these Western-style clothes underneath were only for their husbands to see at home. The facilitator was very overt about her own ethnic membership. She mentioned: "We are'Giriama pure"' when address-ing the three Giriama speakers in the group. While worrisome to me from my cultural perspective, perhaps this calling out of her own ethnicity and connecting herself quite openly to those three participants served to neu-tralize ethnic/religious/linguistic differences, which were so readily appar-ent, but not spoken of until the facilitator exposed them directly. The focus group met the first time in one of the newly built Italian-funded classrooms. There were fans overhead, but they were not working due to the lack of electricity in the village. The second focus group session was held across the school yard in an older classroom, which was one of the second grade class-rooms that had EGRA reading instruction materials on the walls.

## Shadakunu Primary School

Shadakunu Primary School was chosen as the high-growth school. Of the three schools chosen, this site was the furthest from Malindi town, once again challenging the quantitative findings about urban-rural differences. The second site was one hour and fifteen minutes northwest of Malindi town. On the road to the second site, boys were taking cattle for grazing at alternate locations in the area up and down the road, which meant they were not attending school. The landscape in this area was dry and hot. The village did not have electricity and the head teacher expressed the strong desire for solar or gas lamps. The school had 1,047 students, which included the eight feeder schools from outlying smaller villages. Some were as far as seven kilometers from the second site. This school housed preschool through grade eight and had 14 government-paid teachers. Parents supported the teachers and two of the parents were paying teachers at the eight feeder schools. Two teachers, a first and a second grade teacher, received the EGRA training and were still teaching at this school in March 2009.

### Religion and Ethnicity

The village was less than 1% Muslim, according to the head teacher, with the implicit assumption that the remaining majority of students professed the Christian faith. Muslim students went to a madrassa 3 kilometers from the school for weekend classes. The main ethnic groups represented in the community and the school were Giriama, Kamba, and Kikuyu.

### Industry and School Donors

The main livelihood in this area was farming. Pineapple farming was going well until a blight came and killed the entire crop. After the blight, the closest pineapple farming was 20 kilometers away. The head teachers said that this blight was "like what we say about AIDS, incurable." A group of carvers from the Kamba ethnic group making souvenirs such as elephants, giraffes, and other animals found in Kenya was active in the village. The Community Development Trust Fund, a UN organization, was a key donor for this school. The Catholic Diocese of Malindi started the school. In 2006, the diocese built 10 classrooms and renovated the existing structures, including providing the water tanks, latrines, and desks for classrooms.

### FPE and School Fees

The head teacher described primary school as free under FPE, but then listed a series of fees for which parents were responsible. Exams cost 15–20 shillings and the teachers' fee of 30 shillings per student paid for non-government-supported teachers. He stated that no paper and pen fee existed and that

textbooks and exercise books were paid for with FPE funding. The school lunch fee was 15 shillings per student. World Food Programme provided food and the school paid the cooks. If a child had not paid by the 25th of the month, then the child would not be served; the school lunch program only served those who paid.

### Water

The school water tank, which caught rainwater for drinking and handwashing at school, was completely empty. The school did not have a particular spot for handwashing before a meal. The "security man" got water from the tank and put it into basins, but without water in the tank, no water was in the basins for handwashing.

After going to the latrine, children had no particular place for handwashing either. They could use a container to get water from the tank to wash their hands, and then go back to class. Soap was not available. Drinking water also came from the captured rainwater in the tank. The water in the tank ran out two days before our visit, so the school had no water at all in March 2009. The head teacher had communicated the lack of water to the area counselor and he promised to bring water. The security man had cups that he gave out for drinking. The students shared the cups.



*Figure 4.4* Water Tank at Shadakunu Primary School

*Figure 4.5*  Community Water Basin in Village of Shadakunu

The focus group participants referred to a community-held dam where they got water, explaining that this "dam" was now empty since the rains were late. I returned to Shadakunu after the second focus group session to see this water source the participants had described. The picture shows the fence in the background that the community erected around a large hole people dug to capture rain water. The community would dig the large hole out more so that when the rains finally came, they could collect water here and fetch water within the village rather than walking an hour to find water. Community members were not allowed to get water out of the school tank.

### Availability of Health Care and Secondary Education

The closest dispensary was up the road five minutes by car. A maternity clinic was under construction behind the dispensary. A secondary school named for Mekatilili, a famous female freedom fighter, existed next door to the primary school. The same exam scores reported above applied for getting into this secondary school. It was a district secondary school, so students who scored 300 to 349 on the primary school exam could be offered admission to the school.

*Health Events*

This location is where we saw a girl lying on a bike with a group of ado-
lescents around her walking the bike down the road on our first visit to the
village. The girl was gesturing, gesticulating, and appeared semi-conscious.
This event was the first observation of the "devil's disease" discussed in the
focus groups. When asked about what we had seen, the head teacher said
that this sickness occurred in girls. He explained that the girl starts shiver-
ing, then falls down and becomes semi-conscious. Girls in this condition say
words you cannot understand. He stated that the problem had erupted in
the last few months. He wondered if it was some sort of malaria.

At this site, the research team was made part of a health episode at the
school. A girl had collapsed at the school and the teachers asked if I could
take her to the dispensary up the road in my car since mine was the only
car in the village. We drove five minutes up the road to the dispensary.
A male teacher from grades six/seven/eight and a female preschool teacher,
along with two female classmates of the grade seven girl and the sick child,
travelled with me. They carried her to a cot in the building behind the dis-
pensary reception building. The health worker came in within five minutes
and took her temperature. It was slightly elevated at 37.5 degrees Celsius.
She continued to have eyelids fluttering, limp body, and grunting/whimper-
ing. She had some of the same symptoms observed of the girl on the bike.
I wondered if this event was the same collapsing or different than "devil's
disease" that we have heard about at two sites and witnessed on our first
visit to this site. The two teachers mentioned that this student probably had
malaria. I think of the girl we picked up at a junction before reaching this
village and gave a ride to the next village; she was 16 years old and in grade
seven. She had repeated grades four and seven due to sickness. She missed
too much school to continue and complete the year each time.

The head teacher talked about an emergency "discipline" meeting he was
called to the day of our first focus group at this site. The Malindi District
Education Officer brought head teachers in the district to Malindi town
to discuss an increase in schoolgirls getting pregnant. The head teachers
reviewed procedures that the national ministry wants them to follow so as
to collect specific evidence. Cases were believed to have become frequent
because the communities have become aware of what is happening and
thus more reporting occurs. He explained that parents may convince their
daughters to direct the case against a teacher, who may not be responsible
for the pregnancy, so the head teachers were instructed in procedures to fol-
low to establish proper evidence of misconduct on the part of the teacher.

**Corporal Punishment**

The research team witnessed several caning events at the second site. The
first time we visited, I saw a girl being caned in the middle of the teachers'

room in front of many teachers. A group of students huddled around the teacher while one female student was hit on the hands with a stick; the others waited their turn. The other teachers sat around the room marking papers or talking. No one noticed my presence for a moment, then a grade five teacher jumped up to help me and led me out of the room. No one seemed alarmed or in need of hiding the caning. Also, I saw a girl being hit on the hands with a stick outside the grade eight classroom. In addition, the school employed a man as an overall monitor along the grade one, two, and three row of classrooms. He had a big stick and was going up and down outside the corridor waving the stick at students to get them to go back in classrooms. Lower primary school students appeared to be unattended from 10:30 until noon when they appeared to be free to go.

### Focus Group

When we arrived for the first focus group session, several women were waiting under the tree outside the head teacher's office. The group at this site was less responsive and less comfortable than the first site's group. The group tended to be subdued throughout the sessions and laughter did not figure into either discussion or questionnaire response time, as had been the case at the first site. Three of the 12 women had small babies that they breastfed intermittently. Half of the group was barefoot; the others wore flip-flop sandals.

When I returned from the trip to the dispensary, my research assistant who was facilitating the focus group asked me to meet her in the hallway and with frustration said, "This group is very dull." The facilitator was exasperated that a co-wife had come to represent a child who was not her birth child and asked me if she could stay. I told her that she should stay and asked what the facilitator could do to improve the discussion. She said there was nothing to do and that we'll just continue. Having the group session during school hours made a big difference as well. Students were anxious to see who I was and what I was doing and it caused some disruption at the school. Our focus group met at the far end of a long row of classrooms, so we walked past almost every student in the school to reach the room.

A power differential seemed to keep some mothers answering authoritatively while others stayed quiet. When asked about the group make-up, the head teacher said that the mothers who came were exactly those selected through examining the daily register with our research team a few days before. The school sent letters to those parents, so they came. One of the women was the cook at school. One dominant participant was the wife of the local "doctor" and pastor. Another dominant participant found a relative in common with one of our research team and waited at the school for us to take her home in our car after all the other mothers had started walking home. Because we made the mistake of acquiescing about the ride, we

*Figure 4.6* First Focus Group Session at Shadakunu Primary School

had an opportunity to compare her house with other group members who lived near her. Hers had a tin roof, whereas others around her had thatch roofs, which indicated a marked difference in socioeconomic status.

## Vikidi Primary School

It took an hour to reach Vikidi from Malindi town. The landscape was much sparser here with a dearth of trees compared to the other two sites. The area was considered semi-arid and did not have a high population according to the head teacher who suggested that I call the provincial administration sub-chief to get the village's population. The head teacher characterized the environment at Vikidi as harsh and explained that the majority of parents did not stay with their children here. Instead, they moved to other towns to look for work. Children were then left to take care of their young siblings. He also considered that the majority of the parents were not educated.

Vikidi Primary School had six teachers employed by the government and two employed by parents. Those teachers were third and second grade teachers who also taught some subjects in the upper primary grades. These community-employed teachers are form four leavers or graduates of secondary school. Because the school houses nine classes and eighth grade takes up

two classrooms, the school did not have enough rooms to accommodate all of the students in the morning shift. Third grade came after lunch for their school day. This afternoon shift could contribute to why we saw children grazing animals and not in school on the way to Vikidi since some of these children may have attended school in the afternoon. The school was number one in the zone and fourteenth in the district the previous year in mean score on the primary school exam (KCPE). Two hundred eighty students were in first through eighth grades. Vikidi did not have electricity. At the primary school, teachers used paraffin lamps for evening preparation.

Two teachers from Vikidi Primary were trained as part of EGRA. One of them was transferred when promoted to assistant head teacher at another school; the other one was currently teaching first grade. The class sizes at the school were somewhat smaller than the other two sites with 33 total children in second grade and 22 total children in third grade.

### Religion and Ethnicity

The majority of the village and the school was Christian, with the head teacher saying that he thought there were "not even ten Muslims." Nevertheless, there were two mosques up the road at Langobaya, one in Vikidi, and one nearby in Mlanga. Also, the senior teacher who talked with me in the head and assistant head teachers' absence was not Giriama; he was from Tanariva and spoke Pokomo. The head teacher explained that most of the community and school population was Giriama and spoke Kigiriama at home. Just one student was Baluya and two were Kamba.

A madrassa met at the mosque on the weekends for students of various ages from first through eighth grade and up through secondary. The head teacher thought that the madrassa also met in the afternoon and evening as well as Saturday or Sunday. At school, religious education was required in either Islamic or Christian education. The school separated the students and taught them their religion. When asked if students could learn about a religion that was not what they considered their own, the head teacher said that some learned about Christianity although they were Muslim. He said there was freedom and students could join in to learn if they wanted. He said that there was not any class about local traditions, but in extra-curricular activities, there may be music, traditional dances, and drama.

The head teacher said that it was a problem for English to be the language of instruction. Every subject at school was conducted in English, except for Kiswahili class itself. In fact, when I later asked the head teacher what his biggest challenge was, he said "the use of mother tongue at school." He said "it's a war" to teach in English. All the students speak their home language together at school, which was for almost all Kigiriama. The families' home language was perhaps not officially forbidden, but was not welcome to be spoken at school and was seen as antithetical to school goals and students' education.

*Industry, School Donors, and Tourism*

When rains are sufficient, which they were not at the time of this study, then farming was a primary occupation in the village. With the scarcity of rain, farming had not been going well. The main occupation was considered charcoal-burning in which one cuts the whole tree down, chops it into manageable size, and burns the pieces. Then, the charcoal is sold in Malindi and Kilifi. This practice, which the government has tried to regulate with charcoal rules and permits (Ngotho, 2015), was known to encourage deforestation, soil erosion, and exacerbate the scarcity of rain, but was widely pursued in order to generate income. Raising animals, such as cows, goats, and sheep, was also a common occupation.

The head teacher was in his third year at the school and said the biggest sponsor of the school was the community. The Catholic Diocese of Malindi constructed the school in 2005 and gave it to the community to manage. Before the building existed, the school was a mud structure built by the community on land donated by a parent. Parents came together in 1985 and built the first mud structure for the school, which was then used for 20 years. A group of Germans also organized a marathon from Malindi to Vikidi to raise money, which was used for desks and school equipment. Desks at the school were individually dedicated, with their sponsors written on them, such as: "Sponsored by Heinrich von Nahmen, Sponsored by Hildegard Nitsch, Sponsored by Schussel-Live," etc. The head teacher mentioned that last term, the school had ActionAid sponsorship of some sort and benefited from a grant from the government ("MP—member of parliament—donation") to the Langobaya area, but after the election in January 2009 and the post-election violence, this funding stopped. No tourist industry was apparent at Vikidi. The road to Tsavo National Park did not pass by this village, so tourists did not regularly tend to have contact with this village.

*FPE and School Fees*

The head teacher described the various fees parents paid that were not covered under FPE: 20 Kenyan shillings for exam fees, 200 Kenyan shillings for a uniform, 30 shillings for teachers' salaries, and 300 per term for preschool. He said that the government provided paper and pen as well as schoolbooks. As for fees collected for teachers, five teachers including preschool and primary teachers were paid by parents. These teachers were paid 3,000 shillings each per month out of funds collected from parents. Government-supported teachers were meanwhile paid at least 10,000 shillings a month. School feeding from the World Food Programme started in the January 2009 term and would continue for five years. WFP selected the area due to famine conditions; some residents have been going without food for three to four days, according to the head teacher. Students have

collapsed in class and teachers have been seeking out food for them. Students paid one shilling per day for lunch and the fee was collected daily, not monthly. The school needed to pay the cook, so collected the fee for the lunch for that purpose. The head teacher explained that, with the program, WFP wanted to see enrollment go up, especially for girls.

The head teacher explained that there were children who did not come to school at all. The country called primary education free, but children were still prohibited from coming due to costs. Some parents could not afford clothes. Students were not required to have a uniform, but some children did not have any clothes at all to wear to school. The school could not give an estimate of how many children were not in school, but the head teacher was sure that school-aged children were at home and not enrolled or attending school. In addition, herders, many of them old men referred to as *Gala*, came from very far away with their animals. The head teacher suggested that these men had wives and children in the area with them and the children needed schooling options. There had been discussion about changing this primary school to a semi-boarding school. The farthest village to feed into this primary school was 10 to 15 kilometers away or about two hours walking.



*Figure 4.7* Kitchen at Vikidi Primary School for Preparing Lunches with Food Provided by World Food Programme

*Water*

According to the head teacher, the children washed their hands prior to eating and after going to the latrine. There were tins in each class for washing hands. Soap was not available at these hand-washing locations. For drinking water, the tap water came from a water plant at Langobaya. Sometimes the pipe was perforated near a joint and water stopped coming. In this case, students were told to bring water. Students got water at home from taps and wells. The school had cups for drinking water, but there were not cups for each student. Students in each class used the same cup.

*Availability of Health Care and Secondary Education*

There was a dispensary up the road in the next village. This dispensary was the closest health care option for families. When we arrived for the first focus group session and only three mothers came, we disbanded and decided to come back the next day. The teacher who had been designated to greet us when we came then asked if we could take him up the road to the dispensary as he was feeling sick and needed to seek medical care. We drove him up the road to the dispensary, which was about five minutes away by car.

   This village did not have a secondary school. There were secondary schools in various locations in the area: Langobaya, Mekatilili, Kakoneni Girls, and Mwangea Girls. Eighth grade students started preparation for the primary school exam during the second term. The government paid tuition, food, and boarding for secondary school, but parents paid school fees, purchased required equipment, clothing, and school materials, and provided transport. The type of secondary school a student attended determined the student's chances for going to college. The senior teacher said that if a student goes to Alliance Girls, it is easier to go to university because of the prestige of Alliance versus going to Langobaya, for example. The senior teacher explained that parents needed to plan ahead and save money for their child's secondary schooling from the time the child entered first grade.

   The fees for secondary school were prohibitive for many people as they were exponentially more per year than most families earned in a year. Because no secondary school existed in this community, families also knew that going to any secondary school, no matter what the level, would involve leaving home. These barriers to secondary school may also hinder primary school attendance because parents and children alike may approach school discouraged in that they cannot continue beyond primary, so perhaps time would be better spent engaging in other activities rather than going to school at all. Unlike the other two study sites, the research team did not witness corporal punishment taking place at Vikidi Primary School.

*Focus Group*

The day of the first focus group session at Vikidi Primary School, we did not take a needed turn along the way and were on the road to Tsavo National Park instead of heading to Vikidi. After traveling the wrong way for a short time, we corrected ourselves and arrived a bit after our scheduled time. Neither the head teacher nor the teacher who stood in for him when we had visited the first time was present when we came for the first focus group session. The head teacher and assistant head teacher were both in Malindi at the Ministry of Education for end-of-term exam registration.

Only two women were present for the focus group and told us that parents were not there because they were participating in a "food for work" opportunity offered by an NGO they could not name. An unspecified organization had come and asked adults to clear the road and receive food in exchange for the work. The female teacher we met on our first school visit came and greeted us as we waited. We left after an hour and a half because only three women had come; we rescheduled the focus group for the next day.

The next day, after picking up a repaired tire at the Total station in Malindi, we got to Vikidi by 9 a.m. We met with the head teacher before starting the session with the assembled mothers. Nine participants had arrived by 10:10 a.m, and mothers continued to trickle in, including the three who had been waiting the day before. My research assistant acting as focus group facilitator posed the first question on what does health mean. All was quiet, and then she asked the question again and got laughter, as was the case more often at the first site, but not at the second site. This ice-breaking laughter gave me hope for richer responses to come.

Twelve, then thirteen, and finally fourteen and fifteen women arrived until we had to turn off the recording devices and talk with a couple of the women so that we could keep the group at a manageable size. The grandmother in the group refused to leave, saying she would stay and listen up to the end. Sitting under the tree in full sight of people beyond the school grounds may also have lent to the group's growth with both latecomers and random comers. One woman that came and was politely turned away said that she didn't receive a letter from the school about attending, but was told about it by a friend. One mother who came towards the end of the first session told my research assistant, who was acting as notetaker and dealing with latecomers, that she had a letter asking her to come to the focus group, but was late because she was at the dispensary for HIV CD-4 counts and anti-retroviral drugs.

We met under a tree beside the school by the soccer field. With their mothers' consent, I offered biscuits (cookies) to each of the four babies and toddlers in attendance, which calmed them. One of the toddlers was playing on the ground with a wrapper that his mom gave to him. We settled in to do both focus group sessions in one day and spent morning through afternoon out under the tree, shifting the desks brought out from the school around so that we could continue to be in the shade. School kids came out to play

soccer during this time with lots of boys playing together. Some kids—two little boys, three little girls—were walking around with arms around each other just enjoying friendship.

The preschool children walking home from school carried the bowls they brought to be served the school lunch. One little boy came and stood behind his mom. Her neighbor in the group bumped her and she looked back and smiled. Her older son, who was in first or second grade, was still sitting behind her. The little boy next to me pulled his mother's breast out—the other one that wasn't yet out—found the nipple and started to suck. This use of the breast as toy, as comfort, and as nourishment, all occurred fluidly as time passed in this group, which was also the case at the second study site. At the first site, the mothers did not have small babies along with them.

As the second session began, mothers raised their hands with responses to the question, "If your child is sick, could he or she go to school?" Holding both sessions in one day meant that we did not lose any participants, but we also did not gain the potential advantage of getting to know one another during the first session, then meeting again with a continuing relationship at the second session. The newness of the relationship and the lack of time to reflect on the first session before starting the second could have affected the responses, but also could have enhanced the responses as all the questions were asked and answered in one long day.



*Figure 4.8* Focus group at Vikidi begins in the morning.

The community resources and school and village characteristics discussed in this chapter shaped the home environments of the mothers and their children. Considering the differences among the sites leads to more questions about how these variables may be affecting children's health and literacy. For example, water was in shortest supply at the school with the greatest growth in reading scores (Shadakunu). Water was available, but not clean, at the site with negative reading growth (Noanini). At the site with no change in reading scores, water was accessible through piped sources, but food was perhaps the least available of all three sites (Vikidi). These factors need to be investigated further by hearing from the women about their daily lives and how these variables combine with others to affect their children's and their own health, and how they then affect literacy formation at school. In the next section, the mothers who participated in the focus groups in these three school sites will be the focus.

## Building Knowledge of Local Contexts Through Mothers' Perspectives

After initially discounting women as actors in development, Western development approaches since the 1970s have increasingly recognized the central role of women in the development process. Development research has also heralded the positive effects on education, health, and human agency from educating a girl who, in African societies where marriage is culturally universal, will likely become a mother. Whereas mothers have been shown to shape the lives of their children, the strong connection between the mother's and child's literacy has not been adequately addressed in literacy interventions. By showing the problems inherent in literacy approaches that exclude the mother and bringing to the fore multilingual literacies and the interrelatedness of literacy, health, and development, these findings make sense for the African mother and family. Mothers' perceptions and daily lives point to a need for engaging problems multigenerationally. At a macro level, this involves bridging the divides of the separate development sectors of health and education. Within daily life, these sectors are not separate; the environments of the mother and child form a complex of issues that are not contained within one sector.

To gain access into the world of the child, I talked with children's primary caregivers, their mothers, to elicit the emic or insider view on what happens in the home that facilitates good health and reading achievement. Listening to this set of sensibilities with insights from African feminist, gender and development, and child development literatures, I tuned in to what mothers had to say rather than entering the research knowing what I would hear.

### Description of Mothers

Thirty-six mothers took part in focus groups at three different school sites. Of those 36 focus group respondents, 33 completed demographic questionnaires with a member of the research team. Thirty-three mothers with a

mean grade-level completion of "some primary" were interviewed. Fourteen mothers had not attended school at all, whereas three had completed primary school and one had completed secondary school. More than half of the women reported that they did not read in any language, whereas fifteen of the mothers reported the ability to read in at least one language. Figure 4.9 shows the frequency scores for answers about reading ability with level of schooling and languages reported to read. The number of meals among the mothers can be seen grouped according to religion and school site in Figure 4.10. The number of meals also correlated with frequency of headaches reported by respondents.

The mean age at marriage (of the 20 respondents asked that question, which was only posed at the second and third study sites) was 19. Twenty-three of the respondents reported no toilet by using the term "bush toilet," while nine had a pit latrine and one had a flush toilet. Five of the respondents had a phone, while 28 did not. One mother had a TV, while the remaining 32 respondents did not. Twelve of the women (all from Shadakunu) cited a 'dam' or water basin (as seen in Table 5.1 in the next chapter) as their source of water. Nine (all from Noanini) reported a well at school as their water source. Three reported piped water 30 minutes from their home, two said that piped water was available at their residence, one had piped water 15 minutes from home, and one had piped water one hour from home. One mother reported a public well as her source and another reported getting water from a well at home. The constellation of languages at each school site is depicted in Figure 4.11 below. Shadakunu's focus group was the most homogeneous in terms of ethnolinguistic membership, with all respondents citing Kigiriama as their home language.
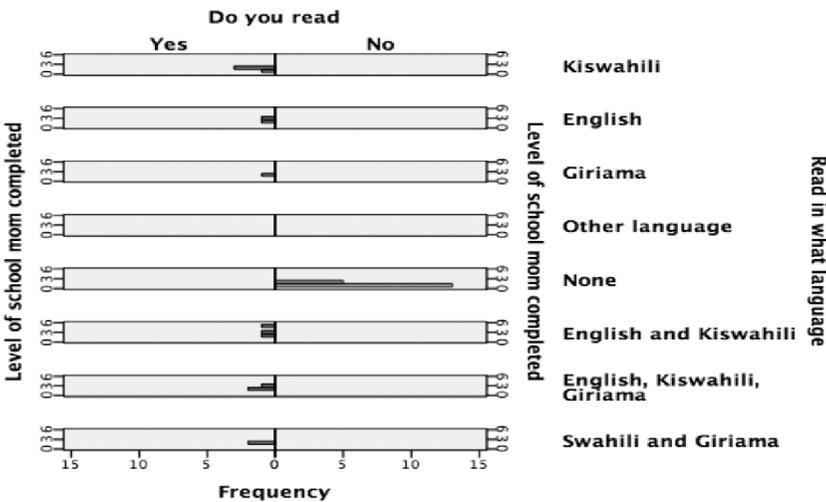


*Figure 4.9* Reading Ability in Which Languages and Level of Schooling Among Mothers
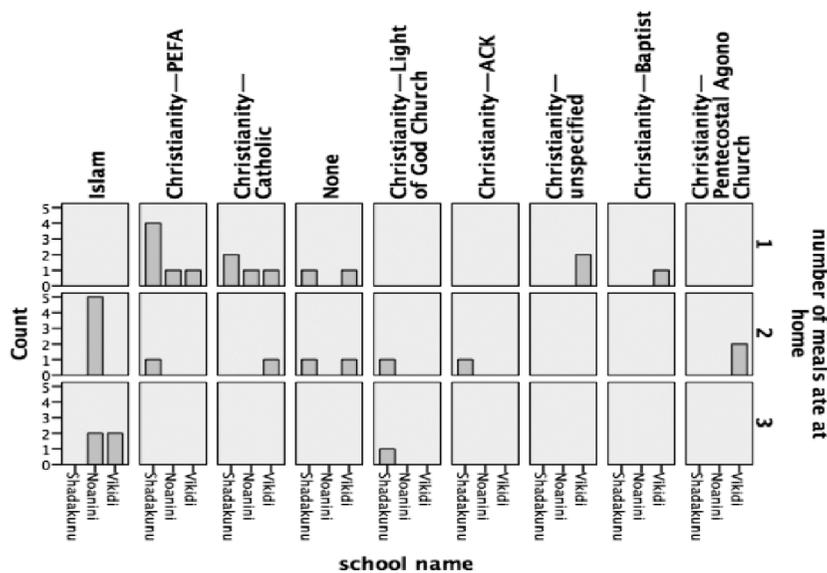
*Figure 4.10* Mothers' Number of Meals Daily, School Site, and Religion
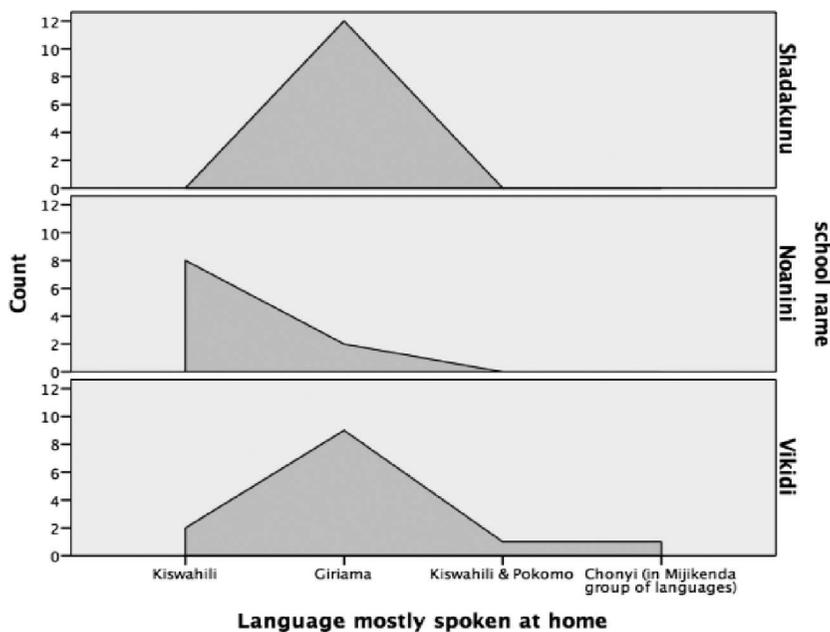


*Figure 4.11* Home Languages of Mothers at Study Sites

For reference, in Appendix D, I have provided a table of focus group participants, which includes the pseudonym of each mother, their child's school site, the number of meals they eat per day, their home language, religion, self-reported level of schooling, self-reported reading ability, and three socioeconomic index items (cell phone, toilet, and radio) from the asset index used on the demographic questionnaires with mothers.

Chapters Five and Six provide analysis of mothers' knowledge and perspectives gleaned from the field research on the coast of Kenya, with an eye toward the transferability of these findings to low-income settings that share some of the same charactertistics.

## Notes

1. The San Marco Space Station was built by the Italian government in 1964. It employs about 15 Italians and 200 Kenyans, including technicians, carpenters, mechanics, and kitchen staff. It has a dispensary (health clinic) with an ambulance and a nurse, often referred to as a "doctor" in Kenya.
2. The Italian government has spent nearly three million dollars in Coast Province, half of it in Malindi and Magarini districts. Noanini Primary School rehabilitation and extension and the construction of the health center and secondary school were funded by the Italian government. http://allafrica.com/stories/200911191156.html

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# 5 Reading Mothers' Lives
## Connecting Home and School

*So in many ways like this, including sanitation and immunization, schooling is more critical for mothers in the less developed countries because they cannot count on the level of help from a public health infrastructure and other community resources that protect children and mothers in the rich countries. In other words, children the in the developing world are more dependent for their survival and development on the **personal resourcefulness of their mothers**, and that makes women's schooling such a potent variable there. (p. 155) (Emphasis in the original text)*

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*Literacy and Mothering: How Women's Schooling Changes
the Lives of the World's Children*. New York: Oxford.

Figure 5.1 contains the four quadrants of mothers' lives that I developed in order to categorize and display the qualitative research findings. Gender, health, environment, and language and literacy are the four overarching areas. Each of these quadrants contains the daily concerns of mothers' lives, but also points to thematic sub-areas: Gender is characterized by responsibility and resilience. Health is made up of definitions, actions, and intersections. Environment envelops situational givens of the physical or natural context, cultural and linguistic context, and socioeconomic context and how all of these interact. Language and Literacy encompass the impact of parental involvement and mothering of the child. In each of these quadrants, I analyze mothers' perceptions and what the qualitative data is telling us that we did take note of adequately before reading and analyzing this data.

Figure 5.1's four quadrants and activities within each encapsulate what the qualitative findings demonstrate. Hunger, water, heat, distance, and disease are situational givens dealt with by mothers regularly. These givens, in turn, affect the child's health. Mothers are engaged in a constant search for income, food, water, and money for hidden school fees. The child participates centrally in the mother's struggle. Thus, hunger, fee arrears, dirty uniforms due to lack of water, sickness of the child, and absence of the mother due to the search for income-generating labor lead to the child missing school. Access of mothers to the world outside of these daily challenges
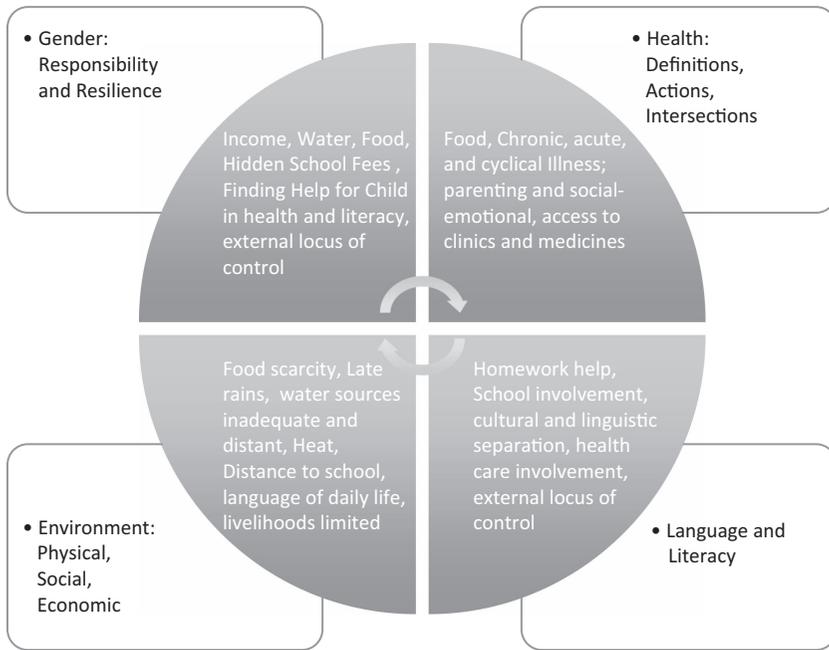
*Figure 5.1* Mothers' Lives Model

is blocked by environmental variables. The Mothers' Lives Model categorized daily pursuits into quadrants that affected one another and overlapped with one another. Just as there is a maternal-child health linkage that is studied and addressed in public health interventions, so there is a maternal-child literacy linkage that must be addressed in literacy interventions, and these linkages should be addressed cross-sectorally across health and literacy. Health itself is acted on and depleted by hunger, water, heat, distance, and disease, all of which are the situational givens dealt with regularly by mothers and their children. What follows is a discussion, using descriptive data from the mothers in this study, of each of these quadrants in the Mothers' Lives Model depicted in Figure 5.1 in this order: Health, Environment, Language and Literacy, then Gender.

## Health: Mothers' Definitions, Actions, Intersections

Health was the primary focus of the group discussions, especially during the first session with each group of mothers. Mothers talked about their definitions of health, actions they take regarding their child's health, and intersections of health with other aspects of their lives, such as income-seeking activity, and water and food and all the attendant occupations of a mother's daily life. Mothers talked about connections between health and school attendance,

economic status and school attendance, and, less overtly, connections between health and socioeconomic status. Health factors influence school attendance and school achievement. Children miss school due to disease and sickness, but also due to water (when none is available to wash themselves or their uniforms, and when the child needs to engage in fetching water or care for the home while the mother is fetching water further away). A lack of school fees for various hidden costs that mothers chronicle is also cited as a reason for missing school. School achievement, thus, suffers given the lack of attendance. Mothers perceive their role in their child's health to be first and foremost to feed the child, but also to seek care for a sick child, find a cure for an illness, and also to give the child "freedom," to help the child to grow up happily.

Definitions of the meaning of health, and of poor health, are both described in terms of food, disease, and cleanliness of the home and child. These elements enter into a description of the developmental niche of the child and the cultural practices related to health and parenting described by mothers. The role of the mother in this niche is central and women's duties as mothers stretch into every aspect of community life—socioeconomic structure, health clinics and services, schooling and learning. Mothers describe their role as connected to these structures and institutions, but disconnected in terms of those structures and institutions being aware of or responsive to their needs, their realities, or ready with resources as demonstrated in the following exchange:

FACILITATOR: And these members of . . . of parliament of yours or . . . your leaders . . . that is let us say this area's leaders, they usually . . . usually cooperate with parents or with those . . . people of this place to ensure that they, aah, they improve the health of children here or of everyone's health?

SHURUQ: (Inaudibly) Everyone stays on their own. There is no one who comes and asks for the health of children or parents. . . .

FACILITATOR: We cannot hear.

RAHIMA: She is telling you that after they have gotten, they go away with their money.

FACILITATOR: Eeh. . . .

SHURAFA: That is, everyone . . . cares for their children themselves . . . you know if they are healthy or not healthy. There will not come one from the village to ask you if the child's health is good or what.

FACILITATOR: And . . . how to make sure that they have . . . they have . . . making sure that in school the children get good results . . . that is them coming in the middle to make sure that children get good education in school?

SHURUQ: About these people. . . .

FACILITATOR: Those leaders of yours

SHURUQ: There is none.

SHURAFA: I do not know, like this . . . they call for a meeting, like just the other day . . . the one for the other day. They call for a meeting, committee and teachers and parents so that they can find . . . from last year . . . to

look for a way for children to succeed but the results have not been good . . . the committee, the teachers sat down, and parents also we were called but up until now, good results have not been found. But the teachers themselves when they say that they want cooperation among these three people is when children . . . they get to rise up, rise up.

These mothers do not give examples of community leaders or civic figures of any type taking an interest or pursuing an agenda in support of their children's health or education. Meanwhile, mothers at two other sites cite scholarships being given on a financial need basis (Shadakunu) and food aid, school uniform purchase, and construction of the school building being provided (Vikidi), most often coming from "sponsors" often from other countries who plan and meet with community leaders. Nevertheless, after mentioning these outside "sponsors," when asked what leaders do to make schools better, Dama replies, "In short, we have not yet known what they do and they are not bothered."

### Liminal and Multifaceted Definitions of Health

Health is a multifaceted concept, but also closely tied to basic needs, such as food, water, and cleanliness, and the basic fact of being alive or not. Mothers illustrate throughout our discussions the liminality and precariousness of health by defining health as "being alive" and not having health as being the alternative, not waking up or not being alive. Health is, thus, a condition on the precipice at all times; at the same time, this characterization of health is juxtaposed against depth in the health definition. Mothers discuss physical, socioemotional, and spiritual aspects of health, constructing a picture of the meaning of *uzima*, or being alive, as a multifaceted concept. Being alive entails living in all of those areas including socioemotional and spiritual, but also is closely tied to the simple fact of being alive physically. When the facilitator asks about what health means to the group of mothers at Noanini, a series of responses follows:

SHURAFA:  I understand the word health is *uzima* (Kiswahili for 'being alive').
FACILITATOR:  Being alive?
SHURAFA:  Yes.
FACILITATOR:  When you are alive, you are healthy? (Everyone nods their heads). Okay, who else has their opinion? Everyone has, has the freedom to explain to us.
AFIYA:  And having good food.
AMARA:  *Maisha bora* (Kiswahili for 'good life') is also health.
KABIBI:  (Laughs) Health is that the child feels alive (pause). When the child gets out that he does not experience sickness like that. In fact, he can complete countable months or even a year without getting troubled by fever. But, if you come and start seeing that the child gets fever

often, then it is probably that in his body, there is a part that is disturbing him or something like that.

ZAWADI: (Bows her head). It is enough, what they have said. (Everyone laughs).

SHURUQ:  That the child has good health, when the child eats good food.

Mothers refer to food as a primary necessity for health when asked to discuss what the word "health" means. They also bring up disease and "normal sicknesses" as constant in their and their children's lives, and as a constant preoccupation of theirs for controlling, treating, and recovering from them. The liminality and precariousness of health comes across in respondents' basic definitions of health. "Energy-giving food" has to be present for mothers and children to maintain health. Sickness has to be dealt with and overcome.

FACILITATOR:  And . . . when you . . . like that day you do not have, ok . . . but when you get food, do you give them good food . . . or healthy food that gives health to the body?

SHURUQ:  yes, when you get . . . food . . . good food, you will give them and when you get these ones of *ugali*,[1] you will give them also. If it is better food some other day you get, you will give them and maybe if there is nothing at all, they will sleep that way.

Food, sickness, sleeping and waking are basic building blocks of health in mothers' eyes. Mothers at Vikidi describe these basics of a child's health, ending with a reference to health equating with 'being alive':

KALOZI:  I see that my child is *tototo* . . . (Kigiriama for okay)

FACILITATOR:  And what do you do to make sure that your child is okay?

MAPENZI:  (Whispering) It is just that you give them food.

KALOZI:  It is food . . . eats enough food.

FACILITATOR:  And in terms of diseases?

KALOZI:  Diseases do not stop . . . fevers, but when you go to hospital, a little, in the morning, they are outside.

FACILITATOR:  Okay, she has said that . . . and another? Kache, how do you see it . . . when you look at your child's health and friends' children in the village, how do you see it?

KACHE:  I see that my children's health is *mbidzo* (Kigiriama for good).

FACILITATOR:  How . . . in terms of health and his life?

KACHE:  Diseases do not stop . . . fevers and colds. . . .

FACILITATOR:  And how do you make sure that his health is good?

MAPENZI:  Because he is alive, when he sleeps and wakes up, he is still alive and comes to school without a problem.

When asked about poor health, mothers cite the absence of food as the major driver. Mothers also expand on this "bringing up well" model, citing cleanliness as well as disease care.

FACILITATOR: Okay. What is it that makes a child have poor health?

NYEVU: It is that maybe they are not being looked after well enough . . . for example, if it is food, if they are to eat three times a day, then they are given once a day . . . it can contribute to poor health.

FACILITATOR: Anyone else? . . . what makes a child have poor health?

RIDA: Sometimes it is the way of bringing up . . . for example you have a child and you do not take care of him well . . . the child will not have good health. Even if you give them food, but there is no cleanliness, you see, the child will not have good health . . . maybe they are sick and you do not care . . . also that is a thing that makes a child have poor health.

Mothers articulate the importance of socioemotional health and their role in assuring its growth. This mother describes "freedom" as critical to her child's good health and describes stress as antithetical to good health:

FACILITATOR: Zena, what can you do to make sure your child has good health?

ZENA: You give the child some freedom. That is if you are happy for him, and you are always happy when she/he is near you, but if she/he comes home and the mother expresses sadness, the father also the same, the child will have stress.

### *Health Affects Attendance and Schooling*

Health affects schooling, with ailments keeping children at home, especially when distance to school is long, water is scarce, and food is lacking. In the excerpt below, headaches and fever keep the child home. These are part of the "normal sicknesses" articulated by mothers, which is malaria and may be cerebral malaria when described as below.

FACILITATOR: Okay, not taking care of the child . . . is there anyone else with their opinion to tell us? . . . (no response) . . . And how have you seen the health of your children in relation to their education? Does it affect their education or . . . there are those who have already said something . . . but what about the others . . . when your children are sick, do they come to school or they do not come?

HEELA: They do not come.

SIDI: Some do not come . . . it is until they are healed that they come.

FACILITATOR: And what disease can make a child not come to school?

SIDI: It is fever of the whole body and headaches.

FACILITATOR: So what brings about these headaches?

SIDI: They will just say that their head is aching . . . and then say that their whole body is aching . . . so I cannot know what brings that.

Distance to school is a compounding problem related to health as well. Sara, a member of the group in Shadakunu, lived in a community with children

from many kilometers away in smaller settlements who walked to the primary school.

SARA:  Secondly, it's the distance. The walking distance to the school sometimes affects the child. The struggling of a child to walk long distances makes . . . makes the child deteriorate healthwise.

FACILITATOR:  You mean the distance from their homes to here is like how many kilometers?

SARA:  Mmmm. Up to here . . . some children's homes are very far . . . about 10 . . . 15 kilometers.

FACILITATOR:  Is it?

SARA:  Yes.

FACILITATOR:  And they come by what means?

SARA:  They come on foot.

This mother connects the walk to school with failing health, which will in turn affect concentration, cognitive ability, and school performance. In the next excerpt, Sidi, from the Vikidi focus group, connects her child's walk to school with those same outcomes. Her child has failed twice; he is in Class 2 while his peer is now in Class 4. She says that "his mind does not get" it. Health is integral here because distance to school is viewed as depleting his health and contributing to poor cognitive function.

FACILITATOR:  And when you look at the distance from your homes to the school, can that affect the children in their education or does it not affect?

SIDI:  Many are affected . . . like mine already, then . . . when he was starting school, he was good, but now, the mind has totally changed to a different one such that he does not get anything in class . . . but in the beginning, he was getting . . . but now, he has really dropped . . . he even has a peer who is now in class 4 and he is still in class 2 . . . as I am talking.

FACILITATOR:  And when you look at it, what do you think is the reason?

SIDI:  I think that it is just his mind does not get it.

FACILITATOR:  And from home to school, how far is it?

SIDI:  It is like two hours.

### Mother and Child Health Intersections

Mothers discuss suffering from the same illnesses as their children, with malaria and malaria-associated symptoms being the most common disease for adults and children. Malaria was cited across all three sites as being the foundational illness experienced by community members. Other illnesses are not noted as being a shared burden of children and their mothers. Mothers discuss muscle strains and pressure, diabetes, and stress, which are conflated

often as one and the same health issue as affecting themselves. They discuss ringworm, tapeworm, cholera, allergies, convulsions, and colds and flu as illnesses experienced by their children.

Mothers talk about differences between their own health and that of their children. Mothers connect their deterioration in health to caring for their children. For some mothers, caring for their children means seeking out work to buy food and keep their children fed, which exhausts and expends their energy for caring for themselves. Dhahabu says, "you see I am the one who looks for food for them and cooks for them, so I am the person who looks for food then . . . deteriorates in health." All of the women in the group chime in saying, "It's true," then laugh. Dhababu continues, "Looking for food . . . I pay by . . . the jobs that are here are fetching water, I carry a bucket of water on my head (pause), washing clothes for people . . . then you get . . . money, you buy maize flour and take it to the children." Shurafa agrees that her health is not as good as her children's although not for the same reasons, "As for me, my children have better health than myself, because they are all young, I take care of them. I do not look for food for them, their father looks for food for them, but all the things at home, I take care of them myself. Now, I don't understand if it is being tired from taking care of them that makes my health not be good!?" Dhahabu then says she had not finished, "That searching, searching until . . . and you will spend the whole day hungry until evening . . . that is why I am not the same as these children (mothers all laugh), they have defeated me."

### Intersection and Variations in Health Issues
### Across Three Communities

Water sources, distances to school, water, health clinics, and other community differences were associated with variation among the communities in what illnesses were brought up as common and frequent. Table 5.1 gives us a summary of each site, its water source, mothers' health issues, children's health issues, joint health issues meaning those that affect both mothers and children, and then health care options cited in each community.

## Environment: Physical, Social, Economic

In keeping with efforts to categorize contextual factors in various ways, I have sought to delimit environmental factors in a manner similar to the ICF-CY, which is an internationally applied WHO tool.[2] In the ICF-CY, environmental factors include physical, social, and attitudinal factors. Personal factors are a separate contextual category and include elements of identity, such as gender and race. Environmental factors can be both individual (at home, school, work) and societal (formal and informal social structures in social networks, laws, community systems). I include economic factors under my section on environment as well because those factors are

*Table 5.1* Sites, Water Sources, Health Issues and Health Care Options

| Site | Water Source | Joint Issues | Children's Issues | Mothers' Issues | Health Care Options |
|---|---|---|---|---|---|
| Noanini | Uncovered well at school | Malaria<br>Fevers<br>Cholera<br>Asthma<br>Insufficient food<br>Typhoid<br>Monthly period | Coughs<br>Jiggers<br>Boils<br>Tapeworm<br>Stomachaches<br>Vomiting<br>Sight problems<br>Born small<br>"Devil's disease"<br>Convulsions | Muscle strains<br>Dizziness<br>Pressure/Diabetes<br>Stress<br>AIDS | Dispensary by school<br>Malindi Hospital<br>Gongoni Dispensary<br>Italian Space Station<br>Chemist<br>Traditional healers<br>Go to church |
| Shadakunu | Community water basin<br>School water tank<br>Walking to Galana (20 km) | Malaria<br>Fevers<br>Headaches<br>Insufficient food<br>Monthly period<br>Diarrhea | Nosebleeding<br>Convulsions<br>(*nyama wa dzulu*)<br>"Devil's disease" | Muscle strains<br>Eye problems<br>Tooth problems<br>Stomachaches<br>*Kirwa*<br>AIDS<br>Stress | Home remedies<br>Sosoni Dispensary<br>Traditional healer<br>Malindi Hospital |
| Vikidi | Piped drinking water<br>Walking to other locations | Malaria<br>Fevers<br>Colds<br>TB<br>Cholera<br>Boils<br>Insufficient food<br>Typhoid<br>Convulsions | Allergies<br>Convulsions<br>(*nyama wa dzulu*)<br>"Devil's disease"<br>Ringworm<br>Diarrhea | Monthly period<br>Muscle pains<br>AIDS<br>Cancer<br>Stress | Home remedies<br>Malanga Dispensary<br>Malindi Hospital<br>Traditional healer<br>Kilifi Dispensary |

integral to mothers' articulation of their lives. Personal factors as described above are addressed in the Gender quadrant. Contextual factors have to be considered when considering functioning and disability in this framework because health conditions and contextual factors are in constant and dynamic interaction.

### Environment and Situational Givens Determine Health

Mothers describe health factors that are environmentally situated. Health factors are linked to much more than personal illness control. They are linked to the physical, cultural, and socioeconomic givens of the community. Mothers' use of time, for example, is contingent on environmental factors. Her duties are culturally imparted, unable to be alleviated, and dependent on the physical environment at the same time. Environment when discussed in human development literature does not expect or extend to such culturally imparted contingencies in the environment. Physical, cultural, linguistic, and socioeconomic circumstances are all part of the environmentally situated health factors mothers describe. (Linguistic factors are not dealt with under Environment because they comprise their own quadrant in the Mothers' Lives Model called Language and Literacy).

### Physical Environment: Water

The vital link of water to education is clear in the central focus on water in mothers' and children's lives. A shortage of water (whether from a clean source or not)[3] first shapes mothers' and children's lives due to time spent seeking out and fetching water. Time spent getting water increases when availability of water decreases. Mothers and children walk longer and longer distances to find and bring home water at Shadakunu and Vikidi. Mothers then cannot do other income-generating work to provide food for the children and children cannot go to school because they and their uniforms are dirty and also they need to go fetch water.

No matter how far away the water is, unclean water sources also result in mother and child sickness. Children then miss school due to their own sickness or due to their mother's sickness if they need to fetch water when she is not able. "Water from this well here, that hole dug for the latrine is the well. Basically the water is already dirty at the bottom", says Zena of the Noanini focus group. She refers to an uncovered well in the school grounds. It is the water source the whole community uses except for those that work at the Italian Space Station and carry home bottles of purified water. Also, children may attend school, but may be sick, weak, and not concentrating due to water-borne illness or lack of sufficient water for cooking, drinking, and washing. In Noanini, as in the other two study sites, "the rains have not yet come" and Shurafa talks about the rains coming at the time when cholera and other water-borne illnesses will become prevalent.

### Social Environment: Developmental Niche and Mothers' Knowledge

Mothers describe knowledge about diseases and how to handle various situations that arise with their children. These parental ethno-theories (Super & Harkness, 2002) provide cultural insight into sickness and health, gender norms and behavior, and funds of knowledge mothers tap into in the care of their children. Definitions of the meaning of health, of poor health, are both described in terms of food, disease, and cleanliness of the home and child. These elements enter into a description of the developmental niche of the child and the cultural practices related to health and parenting described by mothers. The role of the mother in this niche is central and women's duties as mothers stretch into every aspect of community life—socioeconomic structure, health clinics and services, schooling and learning. Mothers describe their role as connected to these structures and institutions, but disconnected in terms of those structures and institutions being aware of or responsive to their needs, their realities, or ready with resources as described by Shuruq and Shurafa previously in this chapter in the section on Health.

### Getting Resources

Because children's lives are so closely tied to their mothers' lives, mothers' struggles are children's struggles as well. In Vikidi, charcoal-making, an environmentally destructive and illegal practice, is the only income-generating activity available for most women. Children accompany their mothers on long walks to find and cut trees that they burn and then transport back to the road to sell as charcoal. Through shared pursuits and enterprises, mothers' and children's health is tightly linked, not just antenatally, but throughout childhood. Maternal-child health linkage is experiential and environmental as well as physical and nutritional. Mothers' descriptions of struggles to provide food for the child and to provide for basic school needs, such as pens and kerosene, cannot be hidden from the child and, thus, are shouldered by children as well. Examples of such struggles are shown in Kafedha's and Kabibi's comments in sections below.

### Child-Centered Parenting

Parenting attitudes are articulated and adapted depending on the personality, ability, and nature of the child. Mothers recognize these differences in children and adapt their responses to their children accordingly. This child-centered parenting comes in stark contrast to the school system where children must conform to one standard of achievement, dictated by exams and not noted to adapt to learner differences.

NASIRAH:  Children are different. Even with mine, there is that who likes studying and the other one is always a "goal keeper" (the last position

in the class). He likes playing with balls until you get tough on him/ her. "Read. No playing with the ball, no roaming about." While there are some you don't need to tell them such that when he/she comes and has some homework, he/she does and keeps her/his book in order, but another one goes away. So, another one may not be the same. You are then supposed to be serious handling those children.

FACILITATOR: Ok, so how do you find your own?

NASIRAH: Those are mine and they differ, but I make sure I am tight on them. (*Nawashikia ngangar*). . . .

SHURUQ: It's the same. The child must be interested; some are taught, but are not as serious due to liking to play, so it is up to you as a mother to be alert with them.

KABIBI: I feel that according to our children that after school, you should take care not to let him/her play around too much because mostly too many activities hinder him to think of getting into books. Some children are influenced by videos/shows after school, yet I don't have someone strong to tell him/her and he/she listens. It's I who would tell him not to attend videos, but he escapes and goes to the video show and comes very late at night and is required to go to school. At school, he/she will write while dozing. After school, you will tell him the same and you also may not know what is written in the book.

Mothers spoke about their parenting attitudes for girls in particular.

SHURUQ: I will pay for all [children].

FACILIATOR: What are the reasons? You must be having your own reasons.

AMINATA: If there isn't [enough money], I will pay for the boy and leave the girl.

FACILITATOR: For what reasons?

AMINATA: Because the girl will not go to tuition [after-school tutoring].

FACILITATOR: Why?

AMINATA: She will go and play with her friends.

FACILITATOR: And Shurafa?

SHURAFA: If my daughter was big, I would pay equally with the boy because with the present lifestyle, you will find that life is the same. Girls are working the same as boys. Therefore, if my girl was big enough, I would pay for her the same as for the boy.

FACILITATOR: Ok. How about Shuruq?

SHURUQ: I am also feeling the same. If I have the money, I will pay for both.

Here, mothers at Noanini are discussing whether they would pay "tuition," which is afternoon tutoring outside of school, for their girls as well as their boys. One viewpoint hews toward the traditional gender preference with the idea that the boy will get resources for school, that he will be serious and study, while the girl will go play with her friends. The sentiment of the

boy being a better and wiser investment runs throughout this viewpoint. Another viewpoint arises from a more current reading of the employment landscape. Mothers say that both boys and girls would be paid for because both can work in the "present lifestyle." The choice of paying for a girl and not a boy if money is scarce does not get discussed or debated, although it was one option given by the facilitator. The sense that educational expenditures on girls is as useful, practical, or desirable as for boys exists, but has to be reinforced by making a case for investment in girls.

### Discipline and Punishment

Corporal punishment was ubiquitous in the primary schools in this study. Home and school connection and collusion for corporal punishment were articulated by mothers and head teachers, although national policy prescribes a ban on corporal punishment in schools. At the policy level, the District Education Officer for Malindi described the disconnection between policy and practice. On the policy of corporal punishment he said, "It's outlawed. We don't even talk about it. It was outlawed and therefore it's not there" (Field notes, March 27, 2009). On the practice of corporal punishment, he offered, "Done just quietly. Unless there are complaints, you won't know." He clarified what constituted sanctioned punishment at schools, citing manual labor as an acceptable disciplinary action for students. When asked about parental consent for teachers using caning, he cited the UN charter on child's rights and explained that the "global law" covers all Kenyans. Teachers, he suggested, will tell parents that if they want caning of their child, they can do it themselves. In terms of knowing whether or not caning is happening in Malindi District (part of Kilifi County as of 2010) schools, he referred this area to deputy head teachers who are "in charge of discipline."

At two sites, I observed teachers caning upper primary female students under a tree within the school grounds and in the teachers' work room. At one of those sites, a school guard carried a long stick up and down the corridor of lower primary classrooms swatting at students who were in the corridor. Mothers, head teachers, and my research assistants talked about corporal punishment as resulting from a pact between parents and teachers although it was not the policy prescribed by the public school system in Kenya.

FACILITATOR:  Some other day, we were leaving here and we found a teacher caning children. . . . and we said, 'this caning is still there'. This one (indicating the author) asked, 'is caning still here?'. We told her . . . no. She asked, 'do you usually cane?'. I told her sometimes it is an agreement between the parents and the teachers because if the teachers are given permission by the parents . . . that if my child does wrong, you can punish so long as you do not hurt them, then they cane. (All agree). Their caning . . . (inaudible because everyone talks at the same time).

SHURUQ: When they do wrong, they have to be punished.
SHURAFA: So that the next time, they will not do it again.
ALL: It is true.

As discussed in Chapter Four, this volume, the head teacher at Noanini saw corporal punishment as one way in which the home connects to the school, explaining that parents use this form of discipline, so the students are conditioned to expect this type of punishment at school as well. He was interested in discussing motivation when I brought up other methods of encouraging students to conform to school demands and standards other than physical punishment, which also includes physical labor in some cases as well as caning. The head teacher was open to thinking about making what happens at school relevant to the children and giving them a sense of mastery and success rather than ruling through the threat of punishment, but did not feel equipped to change the way things had tended to be done. The contextual nuances of this type of social practice lead to further consideration of macro environmental factors, or those that orbit the school in the sociopolitical environment.

### Macro Environmental Factors

Mothers in the study responded to questions about leaders dismissively, indicating that local and political leaders were not seen as helpful or available in solving their daily problems or engaging in family-level struggles. Other informants confirmed what was discussed in Chapter Three, this volume—that political intrigue and a power imbalance characterize relations between the Coast and the rest of Kenya (Field notes, March 7, 2009). The relative lack of political power on the coast manifests itself in the national education system. Historical origins of the system began with missionaries building schools in Nairobi and Central Province. The missionaries did not build schools on the Coast because the region had been viewed as Islamic, with Arab populations having a strong trading and settling presence for thousands of years. Alienation of the coast from the rest of the country stemmed from this perceived or actual religious difference, according to my research assistant.

ACCESS TO SECONDARY SCHOOL AND UNIVERSITY

One of the situational givens that characterized the educational environment on the coast was that no national secondary schools existed in Coast Province. As described previously, the country's top-performing students go to national schools, so the absence of a national secondary school in the province means that any student who scores high enough for that level must leave the province for secondary school. In addition to the secondary school issue, there was no university in the province. No university existed in Coast

Province and relatively few local residents attended the nation's universities. One of my research assistants who grew up on the coast and was a university student said, "It's like we're not even in the same country. The first time I was introducing myself (at the university), everyone was surprised. What? You're from Mombassa?!"

"OUTSIDE" OWNERSHIP OF RESOURCES

She described also how coastal resources were controlled by people from outside Coast Province: "Kenyatta owns most of the beach property in Mombassa. Tsavo is a national park, the rest of it is owned by Kenyatta. There are mines—gold, precious stone, coal. Indigenous people are complaining that they are squatters on their own land. People from here are not aggressive. It was easier for others to come and persuade others to come get it. Elders let them have it." She went on to say that Kikuyus, who are traditionally from Central and Nairobi Province, are ubiquitous in Kenya: "In Coast, you'll find a small village of Kikuyus." She described how secondhand clothes come in at Mombassa and then go to Nairobi to Kikuyuni (Kikuyu-speaking people), who then supply them around the country to sellers. She also explained that after independence Kenyatta said he was bringing tractors, but instead brought Kikuyu to clear the land. When asked about land reform, she did not see the political will for it, but said that "people make problems for the Kikuyu inhabitants. During post-election violence, even here, there was some [violence]. The Orma, who are nomadic people, feel that the Kikuyu take land. Orma invaded Kikuyu in Mpeka-toni, in Lamu." She continued saying, "People are quiet, but it's gurgling underneath."[4]

*Economic Environment: "Looking for Food"*

Whereas variation exists in the economic environment for different ethnic memberships and perhaps attendant class divisions, mothers do also describe their health as having no difference, citing their overlapping situation of poverty, which stems from the environment they all inhabit together. Shuruq says, "I see that we are all the same, we are all poor." (Zena laughs). Nasirah explains, "When we compare the state of health, all of us in Noanini are the same. Because all of us use water from the well, we all eat fish, our lives are exactly the same, one level. So I see we are the same. The dispensary is the same. Today if I go, I might see this one and tomorrow I will find the other. I see that we are all the same." So, the mothers describe poverty or the state of being "poor" as rooted in their physical environment, which dictates the water they drink and the food choices they have. Their health then, when compared with one another, they see as the same in spite of ethnic and class differences. Again, when comparing their child's health to other children's health, mothers refer to the "environment." Zena says,

"Because the environment is the same, they are in the . . . same environment, so I think they are the same."

Economic struggle is also rooted in the physical environment, such as with reports of fathers returning home with no fish in Noanini, pineapple farmers losing their livelihood to blight at Shadakunu, and persistent lack and lateness of rains obstructing farming yields in Vikidi, which in turn leads to environmental degradation through a focus on more tree-cutting for charcoal-burning. Therefore, poverty and economic struggle were tied directly to the physical environment that families inhabited.

## Language and Literacy: Literacy as Loss

Most of the mothers across the three sites had not had the experience of learning English and entering the English-speaking world within their country and within the systems of their culture. They remained, then, left behind in their own home languages in which they had not developed reading and writing proficiency. For mothers, locus of control was the linking aspect between gender and language and literacy. They were linked because there was a sense of schooling being outside their locus of control. Mothers could not help with homework; they could not draw on their own knowledge to help their children with school. Mothers talked about asking a teacher or family member (often a child's older sibling) how their children were doing or to help their children. Mothers felt constrained as well due to language and literacy issues to pay a "tuition" teacher, who would conduct an afternoon tutoring session, to teach the child and help the child complete homework. Asking others to help was a way of establishing a better sense of involvement and control. It was a coping mechanism, an adaptive response, but did not mitigate the separation/fracture/disjuncture the situation built between the mother and her child, the home and the school. The child was separated at a fundamental level within the school domain from his/her mother and his/her mother tongue. This element of gender, and of language and literacy, disconnects the mother from mothering her child in these early literacy areas and from being involved at school.

### Health-Related Loss

Through a similar dynamic, the language and literacy issue separates mothers from their child's health. Mothers describe their child's illness, various parental ethno-theories about how various illnesses come about, and they cite various health care options within and outside their communities. Across the three sites, mothers always refer to the "doctor" or "one of his followers" writing something down and often then getting tablets for the illness. Echoing Djite (2008) about sociolinguistic difficulty in navigating health care and hospitals and LeVine et al. (2012) about literacy mediation and internalization, mothers said that they did not know what the health

care worker diagnosed or any further information other than the need to take tablets. Mothers then could not trace symptoms to diagnoses or one health problem to the next. They were cut off from the written, and often spoken, part of interacting with the health sector. One mother describes how she could talk with the health care worker when he was a fellow Giriama speaker and referred to this case favorably, but as infrequently encountered.

### Indigenizing[5] English

A teacher I talked with at a secondary school in Malindi District talked about Kenyans making English their own. He said, "We speak our own English." This making of the European, colonial language indigenous to the African culture results in contextually grounded language structure and vocabulary that one can find in post-colonial settings all over the African continent. In this context, this indigenization of English gives Kenyans ownership over the foreign language that is their language of instruction and language of government and commercial sectors. It indicates an impulse to remake the language, gain ownership of it, and indigenize it for local purposes. Under the current school system, children do not get to keep their home language as they move through school. They need to acquire a foreign language to succeed in school, so it is refreshing to hear a teacher, who has referred to English as *Kizungu* (language of the *mzungu*, which means any European language or, simply, white people's language) instead of *Kingereza* (English), as making the language their own.

### Mothers' Experiences With Child's School Literacy

Mothers reported reading progress for their second grade children, but had not heard about the EGRA reading program in their school. The program did not enlist mothers in its design and schools did not tell mothers that their children would be engaged in the program or in the assessment of reading, so perhaps it was not surprising that mothers did not know about the program. It was a symptom of the accepted and assumed disconnect between mothers and their children's literacy. In the school with a high-growth outcome, mothers said:

KADII:  No, we don't know it.
FACILITATOR:  Ok. Who knows about it? (No response). Jumwa, you don't know about it, how about Sara?
SARA:  We don't know about it, but the difference we have noticed in the past years is that we have been seeing the grades one and two returned back to school in the afternoon to practice reading. Only reading books.
FACILITATOR:  Like which ones?
SARA:  Library.

In the school with no change in reading scores, Kafedha described how her child alluded to his involvement with the program, which she had not been aware of previously. The student reported to his mother that the school called for all of the children who could "write" to come to a neighboring school for games. They ate biriani (an Indian spiced rice and chicken dish eaten on special occasions) and drank water "from bottles." This mother's story seemed to imply a reward for progress made for some students, but indicated also her distance from the whole process of learning to read and write, measures of progress, and student reward and withholding of reward for progress.

Mothers cited various examples of their child's progress in reading. Sara described the following:

SARA: I have seen changes because my children who are in grades 2 and 3 could not even read an English sentence. I am seeing a difference with my elder ones who are in grade 7 and by this time (grades 2 and 3), they could not read any sentences in Kiswahili and English.

Sara described these "changes" as occurring during a period when her children would return to school in the afternoon saying they had lessons of "reading storybooks and being told of their meanings." Rehema also said, "I have noticed some difference with mine because I have a neighbor whose child is in grade 6. She can give him some words to read and fail to read and gives it to my child and she reads it. The neighbor even told me 'your child is very sharp'." Kadzo also offered, "this one (in second grade) can read because he can sometimes read in English and translate in Kiswahili. You may see him taking a *lesso* (a wrapper) and read it very clearly and quickly." Jumwa, on the other hand, cited her first grader as reading names and knowing his name on his book while her second grader "has not yet known how to read." Furaha said, "I am also very thankful because he can write his own name, his father's and any animal!" Pendo cited progress that her child's teacher notes after employing a "tuition teacher" to help him.

### Knowing English

At the same time, mothers recognized the difficulties due to languages at school being different than languages at home. Shurafa, a native Kiswahili speaker, explained that children do not "know" English: "because our children have problems . . . do not know English completely, especially the second and first grade children . . . and third, even eighth, do not know English, these children." Her first fix for the problem was hiring a "tuition teacher." She continued: "All the subjects used here are taught in English, so if the child does not know English, really, will they succeed? The subject

is in English, the child does not know English, even when explained, they will not be able to understand it. Yes, in the Kiswahili class, they are usually succeeding, but in the English classes, the children fail." She once again suggested tutoring for second and third grade students, books for reading and dictionaries, so that children can "teach themselves English and Kiswahili." Shurafa's solutions to a problem she observed regularly were both outside of herself and demonstrated her external locus of control concerning her child's learning. The child needed to teach himself or herself the language in order to read. The idea of Shurafa helping as the child's mother did not enter in to her problem-solving for this critical issue, indicating her disconnection linguistically from the child's schooling and the separation of the home, where early education actually begins, and the school, where reading was supposed to happen.

### *Mothers' Capacity for Involvement in Helping Child*

Mothers' perceptions of how to help their child have good health and how to help the child learn at school came across as intermeshed responsibilities and aspects of parenting. An unidentified respondent at Noanini said:

> To assist him/her when he/she comes from school. The food has to be ready, to eat well, have a good bath. You have to make sure you work hard to make him eat good food in time, be responsible when he/she is sick, if he/she misses attending school to be able to know such that if you are to punish him/her, you may do so. You also go to school to know how they relate with teachers about her/his progress. That is when your child will learn well, but if you only take good care at home, yet you don't know how they relate with the teachers, then your child may not do well. When at home, you know how to talk to your child, to be free . . . that is have some freedom at home. The teachers and your child have to relate well. That is when your child will do well.

Mothers' perceptions of success at school are bound to the exam-driven system of schooling. Success is predicated on passing yearly exams and mothers viewed these hurdles as signs that their child was succeeding and learning. Mothers needed to buy requisite equipment and pay needed fees, which was a socioeconomic burden mothers fulfilled with difficulty. Furaha, at Shadakunu, offered the following comment:

> To succeed academically is to give all the equipment needed in school. That's when he/she can pass exams. For example, if he lacks a book for a certain subject, you should be able to buy for her/him, if you can. If he asks for a certain thing needed in their class, you should be able to buy it. That's when he can always add to until when he comes to school and is taught by the teacher, he/she will be able to learn.

FACILITATOR:  At school and at home. . . .

FURAHA:  Yes . . . he will be reading the books he/she asked for to assist him. That is when he/she can succeed in his/her exams.

Karembo said that the mother's best course of action when she herself cannot read to help the child is to communicate with the teacher, "To be coming to ask the teacher about his status in the class, how he writes his work, because if you keep on coming to ask the teacher, the teacher will tell you that this thing and that are not fine." The system was not only exam driven, but very teacher driven. The teacher ranked all students in the class according to their performance on exams. Mothers who did not read did not know how their child was doing by reviewing his or her work. Mothers were not able to read over homework or understand an assignment; thus, they relied even more heavily on teachers' reports about how well their child was learning.

Language and literacy issues meant that mothers could not participate in homework with their children and could not assess their children's work or decipher marks or comments made by teachers on their children's work. Mothers relied on teachers to know how their children were doing at school and did not feel a sense of control over monitoring and appreciating their children's school success. Kabibi said that she had not done so yet, but thought the way to deal with her own inability to read what was written was to talk with the teacher:

> My role . . . is to cooperate with the teacher because myself already, I do not know how to read. I should be going through the teacher to ask how my child is faring because myself even when they are written I do not know what is written.

FACILITATOR:  Is that what you always do or are thinking of doing?

KABIBI:  I have not done it, but I think I will do that because when they are written, I do not know what is written.

FACILITATOR:  Okay. For now, how do you make sure that . . . what is your role in making sure that the child, their school matters are *shwari* (Kiswahili for in line or okay)?

KABIBI:  As for me, like the way you talked the other day, and even today, they have touched me . . . (all laugh) . . . to reach where I should continue looking at the teachers so that I know how my child is doing because myself, I did not read . . . if I wait for him until he comes, when he enters the house, he will come and show me somewhere even if it was written . . . that week, I do not know because even just the date, I do not know. He will say he has written, he has reached while he did not even get there. Children of these days themselves are like that. Now, like the way you have talked, I am thankful I will also enlighten a bit. I will be forced to come and meet the teachers.

Pendo, of the Shadakunu focus group, said, "For me, I cannot know if my child is doing well or not doing well. It depends on the teacher teaching him . . . if they see that they are good and going on well . . . yes, the teacher is the one who knows. I cannot be able to know."

Nevertheless, mothers found other ways of helping children with their homework even when they themselves did not read or write. Mothers gave various strategies for helping their children with school even when they could not check the work themselves. Furaha, of Shadakunu focus group, talked of another strategy for helping her child when she herself could not read, "I did not go to school, but I can help him because there, he has fellow children who are ahead of him. So, if it is evening like that and they are reading, I tell them, "teach him, too." Karembo described strategies of helping with homework for mothers who did not read:

KAREMBO: It is just making sure that the school work is done if they can do it on their own. And the parent, even if you did not go to school, it is not reason for you to let your child go back to school without doing the work . . . because there is someone at home who did not go to school, but makes sure that her child, the work they will have been given . . . she is even ready to call a neighbor to come and supervise. He will write and then she will take it to the neighbor and ask, "Did he write it that way?" So, what she does is just to encourage the child . . . not telling the child that "you are always the last." That way you will be discouraging the child.

The difference it makes for the mother to have access to school literacy was highlighted by one mother who had reading skills.[6] In one-on-one interview data, Rida, of the Vikidi focus group, who completed primary school and read both English and Kiswahili, added "home" to her answer about whether she felt that her second grade child had learned to read at school; she wrote "school and home." She illustrated the key role her own skills in reading played in her second grade child learning to read. It was not just at school; the learning occurred at both school and home.

Rida's situation stood in stark contrast to Kabibi's. Kabibi offered the following:

KABIBI: I am expecting him to learn and proceed very far such that when he comes he will be doing a job like yours. It should not be like my job of carrying a bucket of water because my father never sent me to school, but for my girl child to go and find her also doing this (imitates how to write with her finger) and I ask her, 'what are you writing my child?" (causes laughter). She just does this. In fact, in that office, there is a lady who just does this. (talks while laughing). You are looking, yet you don't understand anything.

In this passage, Kabibi illustrated her disconnection from literacy practices and events around her, such as in a local office, as well as her separation from her own child's literacy actions. At the same time, she voiced a resolve to provide a school-based education for her daughter. Kabibi found her daughter's schooling and literacy formation especially important given Kabibi's own sense of loss when confronted with literacy events in her community and home. Kabibi also gave voice to the continuing and probably lifelong constraints in the form of persistent economic limitations that she traces to her gender-based preclusion from school.

## Gender: Responsibility and Resilience

Mothers described a constellation of responsibilities in the home concerning their children's health, well-being, and education. They expressed a sense of resilience in the face of contextually based challenges to caring for and providing for their children. Locus of control was useful in describing mothers' perceptions of control over various aspects of their child's well-being. Mothers' responses indicated an external locus of control and a desire for the capability to provide for their child economically and for the nurturing of health and literacy.

### *Centrality of Mother's Role*

Mothers described their role as multilayered, with a sustained energy expenditure on household duties and income generation to keep children well. Mothers were responsible for finding work to bring in money and purchase food, for cooking the meals, finding and bringing home water, providing care for the children, and parenting. Mothers described monitoring their child's moods, overseeing physical and cognitive development, as well as progress at school, and supporting and advocating for the child. Mothers had income-generating responsibilities while also often, even when the father was present and still living, being the sole caregiver to the child. A noted exception was Rida whose husband was a primary school teacher and helped her children with homework in the evening.

A child's mother was the constant in the home and her role was critical for the health of the child. In this passage, an informant described the hard work of charcoal-burning and selling that allowed her to buy a packet of maizemeal (corn flour) so that she could cook *ugali* (staple corn paste eaten with meat or fish sauce) for her children, so that they would not be hungry and, thus, would have a chance at good health. Mothers discussed seeking out income-generating activities so that they could feed and maintain the health of their children. Kafedha's description of her work in charcoal-making also served as a metaphor for the struggle mothers across the three

sites described to achieve adequate daily wealth for providing food for their children:

KAFEDHA: I strive to make sure that they get good food so as to get strength . . . but also the food, you have to look for it . . . pass through cutting down trees . . . you cut down a tree, pull it, put it together . . . arrange it . . . start looking for leaves . . . you put . . . that you are covering the *thano* (cut pieces that form charcoal) . . . you take a *jembe* (hoe) and dig soil, then you start taking a shovel and throwing the soil on top. When you are done throwing the soil up, you take fire and put in, it smokes. Then, you keep going to check until it is ready, then you come and start breaking . . . that is when you get the charcoal. When you get the charcoal, you sell . . . when someone buys, you buy a packet of maizemeal so that your child can get food. That is when you will see that the health is there, not there . . . the other reason [for poor health] is hunger for these children.

The mother's socioeconomic role was critical to the health of the child because it was the pathway by which children got food, had water, got clean, had a clean home, and received attention and help for sickness. A mother's socioeconomic role was tied in their discourses directly to the child's well-being and receipt of elements of basic need, such as food, water, and illness control. Participants felt the weight of this role, while recognizing this role as their duty that they would carry out no matter what the adversity and challenge to completing these tasks may be. Mothers did not describe sharing these duties with their husbands; they did describe asking a neighbor to help when they were sick if no mother or mother-in-law lived with them.

Mothers were also well aware of the constraints their socioeconomic situation placed on their child's schooling. In the following passage, a respondent discussed her responsibilities, the comparison of "tuition" children or those who had paid afternoon tutors with her children, who did not have paid tutors, and the struggle to work enough and earn enough income to feed the child each day. Kabibi, whose husband had died, also gave voice to mothers' sense of an external locus of control in providing support and feedback on their child's homework:

KABIBI:  The issue affecting the child is that . . . you cannot give him someone ahead of him to assist in tuition just like what this mama has said because the teacher will teach and when he leaves here (the school) and reaches home, he should find someone else who will show him/her how to do the rest because there could be some he may have written and got them incorrect while you at home have no knowledge. Instead if there is someone who can assist him with knowledge, when he gets back to school, he/she will get some achievement. Therefore, the resources to initiate tuition is the problem because doing this is money, yet money

is scarce. So, if I look at the learning programs and I look at my colleagues' children, a child learns here and goes back to tuition, I don't have the ability. I also don't have that because even my grade 6 child is not attending tuition and the rest too is just to come here and go home to wait for me who is their mother and their father too to get home whether I will have got some food or not to eat, get to bed and go to school the following day, without breakfast, they would just go that way. Will the child be able to hear what the teacher says?

ZENA:  No.

In spite of the multifaceted role of a mother and the challenges women faced in keeping their family afloat, mothers expressed an unquestioned commitment to their job. Mothers described perseverance in carrying out their culturally designated duties no matter what. Shurafa and Dhahabu described continuing on in spite of sickness and fatigue to care for their children, and Nasirah reinforced the fatigue brought on by a mother's work:

FACILITATOR:  And do you think that these diseases that affect the parents . . . do they interfere with the way they care for their children?

SHURAFA:  Yes, work tires people a lot. I see that, myself.

FACILITATOR:  I mean that if you are probably sick, does it affect how you take care of your children well?

SHURAFA:  Yes, it will interfere, but you will do it all the same, even if you will fall down. Maybe you are with your children and your mother is old, you will be forced to do the work that way.

DHAHABU:  And what if you do not have a mother?

SHURAFA:  You will rise up and fall down.

DHAHABU:  Because I also do not have a mother . . . if I am sick. . . .

NASIRAH:  Work really tires us all.

   (The mothers murmur among themselves).

In this excerpt, Swahili and Giriama mothers were agreeing and reinforcing one another's assertions about a mother's responsibilities and resilience in caring for her children.

   Variation existed between ethnolinguistic groups in how they viewed their roles as mothers and how they experienced responsibilities. Swahili mothers talked about their husbands as providing food although fathers were currently returning from fishing empty handed, which affected their livelihood, income structure, and labor organization in the home. Swahili women thought of the mother's role as confined to cooking the food for the family and not generally working to purchase food, while Giriama mothers articulated their situation as focused on finding food for their children, which meant working to make enough money daily to purchase the basic foodstuffs needed to cook, such as cornmeal, then to get home to cook for their families. Kabibi, a Giriama mother at Noanini, described the system of

work within the community that was being disrupted in her view by Swahili women needing work and food as well:

KABIBI:  but you do not know what type of job you are going to get . . . there are no jobs. Even right now as you can see, if you had come with talk of food aid, then it would have saved the house. (All laugh). Because even if you were in bed, you will not get sleep and even when you get out you follow them (points to Swahili women) . . . and even nowadays they go to look for work. They do not have anything themselves as you see them until they also do not know what to do. So how will they help us? . . . Work is the same: carrying buckets of water. (All laugh).

### Mothers' Locus of Control Described as External to Themselves

With an African feminist sensibility (Zeitlin, 1996; Arnfred, 2002; Oyewumi, 2002, 2003) and Sen and Nussbaum's (Nussbaum, 2002) Human Capabilities Framework in mind, mothers' responses on stresses in their lives, how they relieved stress, and what activities they enjoyed doing generated a picture of gender and identity mediated by men's roles in these mothers' lives both as fathers and husbands, and movements between agency and locus of control. Sen and Nussbaum's framework asks for an approach grounded in mothers' perceptions of their capability to do and be. Mothers mentioned stress as either related to or equated with pressure, which was also often conflated with diabetes. Stress was physically manifested as well for mothers in muscle pain and strains, as well as an inability to sleep.

In the focus groups, the researchers asked mothers to discuss health, over which they might feel arguably more control than reading or schooling if they did not attend school or did not consider themselves readers. Health unfolds in the home and parents decided, given their circumstances, when, where, and how to seek outside help for making their child well. Mothers' locus of control was articulated alternately as internal and external to themselves. They referred to fathers occasionally, and not themselves, as decision makers about health care seeking. They mentioned religion as an external locus of control as well. Because they were subject to the unreliability of husbands as providers (husbands who were absent, dead, inactive, or no longer able to generate sufficient family income), plus the norms of gender roles and their culturally assigned responsibilities, environment (water scarcity, food insecurity, illegal and strenuous livelihoods), school practices (language of literacy in the school system not accessible to them), their locus of control had developed in interaction with these aspects of their lives. In each of these areas, their control was clearly delimited in the way that they described it. Heela's words were illustrative, as she described a prolonged episode of convulsions and treatment-seeking at the hospital:

HEELA:  I came and explained this to his father and he said that at the moment, he did not have the money that is required to take the child, so it was

that we were to leave it to God . . . whatever will happen, then only God knows. So that is where we left it, but he still convulses up to now.

FACILITATOR:  And maybe you tried . . . you decided to try somewhere else and if you did, where did you seek help . . . because we are all human beings.

HEELA:  Aah, the decision I made was to go to church . . . to leave it all to God.

Heela's husband was the final decision maker in whether to seek further treatment. This mother voiced a reliance on forces outside of her control by placing the child's fate in God, but felt she made a decision and took action in some sense by going to church.

Mothers discussed various health care options, financial and geographic access to health clinics, and access to and use of medicines. One mother summed up a common viewpoint expressed in the groups about getting treatment:

FACILITATOR:  And you, your role in making sure your child has good . . . what do you do?

SHURUQ:  You take them to hospital; they get medicine and that is it.

The descriptions of health showed the knowledge mothers had about health and its immediacy in their lives and their cultural parenting duties. At the same time, environment and situational givens meant that mothers had less control over health than they would like. They could not navigate hospitals without literacy (Djite, 2008) and enter a world well outside their domain of operation when they ventured out for help for their child. Across the three study sites, mothers also noticed some drawbacks such as when medicines were unavailable or unexplained, and conditions were not always understood by the staff or explained to the mothers. Referral to a bigger hospital meant also financial burden due to transport costs.

Mothers' perceptions of their role in helping a child have good health and helping a child learn demonstrated some belief that they have influence in these areas. But, their locus of control was delimited in their explanations. They may have described their first attempt as their own action, but, beyond that, they were subject to the whims of fate and described this external force as God, put in terms of Christianity or Islam. In this sense, mothers were aware of their limitations within their environment as their health and education contexts, they recognized, were dictated by the conditions of their environment. Their recourse to God then was a means of placing control in external hands since they did not feel able or empowered to alter their own environment. This locus of control issue demonstrated how mothers' personalities and outlooks were shaped by their environment and their experiences interacting with it. In this case, religion became a locus of control (Rotter, 1990) tool so that mothers could articulate God's hands taking over for the child.

FURAHA:  Yes, we take them to hospital (Pendo's child next to Furaha starts crying)

FACILITATOR: Okay . . . (pause) and there are others who . . . they use . . . they go to traditional healers so that they can get protection of the body. So, here at Shadakunu, what do people mostly do to protect their bodies?

FURAHA: Many have left that . . . because I got saved myself . . . so I can say that my preventive measure is just God . . . (says something that is inaudible)

The mothers' resilience then propelled them to continue to act on behalf of their child, through continued vigilance over their child's condition and through prayer, although their locus of control was often described as external to themselves. As illustrated in the excerpt about falling down yet continuing on above, the mother's sense of responsibility for fulfilling her obligations to her children formed the cornerstone of her resilience in the face of various energy-sapping barriers to helping her children. When describing stress relief and activities she enjoys, mothers most often cited sleeping to relieve stress, but most often cited income-generating and work-related activities when asked about "activities you enjoy doing." Work-related endeavors provided mothers with a culturally sanctioned form of freedom to act on behalf of their children. Their citing of these activities as providing enjoyment indicates that, in addition to being a response to the ongoing stress related to providing food and keeping their children healthy, income generation may have provided not only solace but satisfaction for mothers as a way of asserting themselves within cultural parameters.

## Analysis of Mothers' Lives

Aspects of health became more than surface outcomes to measure, but socio-cultural processes to understand and work within through the mothers' qualitative data. Socioeconomic status and gradations of poverty became local contextual landscapes that explained origins, definitions, and conditions underlying these labels. Mothers' understandings of health, but also schooling and the path toward school literacy for their children, informed what have been perceived as persistent barriers, but were perhaps untapped opportunities for demarginalizing those who have been marginalized in the education system. Two of the mega-themes that arose from the data analysis thus far are explained in the two closing sections below.

## Health as a Sociocultural Process

One critical area of data that was unexpected concerned a fainting sickness that girls reaching puberty were exhibiting, that mothers talked about in each focus group, and that the research team witnessed as described in Chapter Three, this volume. Mothers gave names for it, most often "devil's disease." They also connected pubescent girls' fainting sickness to malaria and even to corporal punishment at school, as one mother described her daughter fainting as the teacher prepared to cane her. My hypothesis about

this sociocultural process manifested in a health event revolves around recognizing that girls are under socioemotional and physical stress at school. This sickness is a manifestation of that stress and a psychological coping mechanism. Mothers talked about seeking out local healers' treatment as well as the health clinic for this illness, citing some girls as persisting in a fainting or convulsive state for multiple days. This illness could be an adaptive response to a situation over which mothers, fathers, and teachers are trying to wield control.

Whereas this phenomenon demands further study, it has also helped me to take a leap toward grounded theory building. It encouraged me to look at literature on adaptive responses and resilience and to build these concepts into my model. I am speculating about what this health issue means culturally, but nonetheless view it as potentially a part of a passage from childhood to motherhood and have a hunch that more research would uncover a rich cultural understanding of what takes place with this illness. The mothers involved in the focus group were once, and perhaps very recently, adolescent girls, and in relation to the grade two girls I asked the mothers to reflect on, existed in a cycle of relationship with this health issue. At the least, this health phenomenon made a case for health as a sociocultural process. This health issue derived from the series of environments layered in the home, but also had significant effects on the child's schooling. The illness unfolded in a public space at school as the child encountered the gender environment outside the home. Viewing health as a sociocultural process steered toward a more nuanced and informed approach to health and literacy. Rather than a question of controlling illness, this sickness illustrated the need to dig deeper into the sociocultural nature of illness and the origins and effects that they claim and incur in both the home and the school.

## Identifying Disjunctures

Data from mothers discussed in Chapter Four, this volume, also pointed to the disconnect between mothers' daily lives and development assumptions about children, families, homes, schools, and how to help people and institutions with their problems. The way problems are isolated to address them in development projects as well as the linear nature of the solutions delivered were not consistent with the cyclical nature of the factors in the children's and mothers' lives. In mothers' stories, I heard a mismatch between mothers' realities with Kenyan and development policy assumptions. From the mothers' perceptions and attitudes, I saw that Western development fixes for critical health issues, such as infrastructure like water sources and software like ORT (oral rehydration therapy), did not work or were discarded. Because these issues are cyclical and, in the case of water, are determined by the environment (rainfall and maintenance of existing water sources), development fixes eventually failed due to persistent contextual conditions.

The physical environment also dictated systemic issues, such as a short-age of staple corn flour and rising hunger due to low crop yields. When the rains did not come, then crops did not grow. Also, the commonly heralded education access fix of free primary education was a misnomer practically speaking. Mothers cited numerous hidden school fees that acted as barriers to children's sustained school attendance. Disjunctures between grounded realities and development discourses represented an overarching theme of the mothers' descriptions of their daily lives. In Chapter Six, this volume, I extend the disjunctures theme and analysis of the home and its effects on the child's schooling outcomes that influence literacy formation. I propose a new model of health and literacy as mediated by the series of environments embedded in the home and a new model for literacy intervention that takes into consideration the deeply connected nature of the home context with literacy learning.

## Notes

1. Staple starch made from cornmeal and water cooked to a dough-like consistency and eaten with vegetable or meat sauce.
2. ICF-CY stands for International Classification of Functioning, Disability and Health-Version for Children and Youth.
3. The Ministry of Education official I spoke with about water sources, especially the community water basin in Shadakunu, voiced an opinion widely held, "We don't care about clean water, we just want water." My research assistant/facilitator explained while we toured the Shadakunu water basin that the water you drink from an early age is the water your body is conditioned to process. Her opinion and that of the teacher who also toured the basin with us was that a person's body adapts to the water so that person can drink it regularly without getting sick.
4. Her family history also held a large stake in the power imbalance and politics between Coast and the rest of the country. In 1963, independence was finally won for Kenya and Kenyatta was still in jail. Ronald Ngala, a Coast political leader and her great uncle, died in a mysterious accident. My older research assistant, mother of three living in Nairobi who grew up on the Coast, added that her father got out of politics because of danger.
5. Rather than meaning that the local culture is forced to adopt another culture, I am using the term 'indigenization' to mean that Kenyans make English their own by molding and using it within their context. This understanding of the term includes a sense of ownership and power for the local culture rather than for the outside culture.
6. The EGRA variable on homework help discussed in Chapter Three demonstrated the effectiveness of mothers' help when they were able to provide the help.

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# 6  Conclusions

## Children, Parents, and Learning Environments

*There may be universal cognitive processes involved in literacy learning, but they are expressed through economic, social, and political contexts. They are shaped by literacy environments, teaching and learning materials, and pedagogies. They are expressed by sociocultural beings (p. 311)*

Bartlett, L., Dowd, A.J., & Jonason, C. (2015).
Problematizing early grade reading:
Should the post-2015 agenda treasure what is measured?
*International Journal of Educational Development, 40.*

Slow global growth in literacy rates means that children enter and leave school often without gaining basic reading skills in the school languages. Because of this global learning crisis, it is important to explore what processes surround learning to read that we as a global community may be missing at the local level. This research explores primary school students' reading scores and their mothers' perspectives in schools outside of Malindi town on the coast of Kenya. Mothers, such as Zena, used the term "freedom" in their descriptions of childrearing. The study findings begin to consider ways in which literacy was or was not manifested as freedom within their lives, families, and societies. Mothers' perspectives pointed to the importance of according freedom to their children in their parenting approaches while also identifying constraining forces within their lives. By asking mothers about health, we discovered the sociocultural processes at play in the social, linguistic, economic, and physical environment factors that affect children's learning at school.

Reading growth on the Early Grade Reading Assessment (EGRA) in coastal Kenya was connected to commonly considered socioeconomic status (SES) variables. Initially, using a socioeconomics determinants model to understand its effect on health and literacy, the research then moved toward a sociocultural determinants model that provides more context around socioeconomic status. Reading items, such as letter-sound recognition, which showed growth, suggested the value of the transfer of home language literacy to school literacy learning in the context of Kiswahili and Kigiriama.

The disconnection between home and school literacies emerged during the field research phase in Kenya. Mothers' responses informed the salient factors found in the EGRA data analysis by demonstrating that health is deeply embedded in the home, that health affects literacy learning at school, and that the same environmentally situated drivers affect both health and literacy. Three key findings of the research were introduced in Chapter One, this volume, and will be reviewed again below.

## Looking More Deeply Into Socioeconomic Proxy Variables

Three variables collected as student background information in EGRA correlated with reading growth: geographic zone, TV watching in home, and homework help. As no explicit SES measure was taken in the EGRA study, these three variables acted as proxy variables for SES. Geographic zone demonstrated that communities closer to the urban center of Malindi town improved more than communities in rural areas more distant from Malindi town. Presence of TV gave a similar indication because students who watched TV would have to live in an area with electrification, which would mean more urban locations. Students would need access to power and equipment in order to watch TV.

The third variable, homework help, indicated that students who reported homework help from various family members showed more growth. A family member who helped would need minimal reading ability in school languages as well as some primary schooling. The Tukey's B done on this variable showed that homework help from older sisters correlated with the greatest growth in reading scores. Mothers much less frequently were cited as giving homework help, but raised scores when they were reported to help. When fathers were cited as homework help, this variable correlated with a drop in reading scores. These three covariates have tended to be considered proxies for SES because living in an urban area, having a TV, and having enough education to help a child with homework would correlate with higher SES, but also have untapped significance in terms of the social/gender aspect of health and literacy. The caregivers of the child, the mother and the sister, need to be engaged in the child's literacy learning. The father, as borne out in the qualitative data, tends to be more tangential to the child's development and may not have the skills necessary to help in this manner.

## Connecting Home and School Languages and Literacies

Looking at the numbers from the EGRA intervention, children performed better overall in letter and phoneme recognition in Kiswahili than in English, especially at school sites with an appreciable native Kiswahili-speaking population, such as Noanini. This finding reinforced the literature about using functional home literacy practices to build literacy in school and the desire among focus group participants, such as Kabibi, to have literacy

skills so that they could help their children with homework. Bilingual literacy research tells us that giving children richer home literacy practices in home languages actually builds literacy skills needed for learning second and third languages. Because some of the children spoke Kiswahili at home and others Kigiriama, which is a Bantu language from which Swahili was derived in contact with Arabic, they did better in the testing that builds on that knowledge. If this linguistic contextual factor has such a strong effect on children's literacy formation, then it must also affect health, and other contextual factors must also affect both health and literacy. This confirmation of the interaction of home and school pointed to the need to dig more deeply into our understanding of these separated development sectors of health and literacy.

## Engaging Mothers' and Children's Contexts

The set of situational givens of mothers' lives is cyclical and grounded in culture and context. The conditions of their lives do not change in a linear fashion; they are rather endemic in the environments they live in and cannot be simply removed. For example, a clean water source will not suddenly solve the persistent and weather-dependent scarcity of water as the conditions are cyclical and return due to various endemic factors. Analysis of the EGRA dataset demonstrated that the teacher training on reading instruction techniques resulted in improvement in various basic skills of reading in Kiswahili and English. As explained above, the assessment was used before and after a teacher training initiative to see how effective the intervention was. Data from observing site contexts and from on-site interviews and focus groups allowed for a more nuanced understanding of SES, for example. Being poor is neither a static nor a homogeneous state and has many gradations of severity that make a difference in children's and mothers' lives. In South Africa, for example, what may appear to be minor differences in poverty level have been found to be so critical to school attendance and completion that students are grouped by quintiles of poverty for school fees in secondary school; the lowest two quintiles do not pay fees. The measure of SES or poverty alone without deeper investigation does not tell us enough about the context. Mothers' narratives suggested the disjunctures between Western assumptions about literacy constraints and the realities of mothers' and children's lives.

Mothers' perspectives on their primary students' health and literacy outcomes, as evidenced in focus groups and interviews, built on the salient factors found in the EGRA data analysis discussed in Chapter Three, this volume. Mothers perceived their children's health as being linked to basic needs, which was expressed primarily in narratives about finding and preparing food for their children. This critical building block of health was moderated by the series of environments making up the homes of

mothers and families. Here, I take the quadrants of mothers' lives discussed in Chapter Five, this volume, and discuss how the layers of environment making up the home become the drivers of the model. The physical, social, economic, and linguistic environments determined family income generation, mothers' use and access to knowledge and opportunities, and access to water, food, and livelihoods. The homework help variable from the EGRA dataset and its effect on reading growth was linked and expanded on in mothers' perceptions of their children's outcomes and their capacity to help them. Other salient factors of reading growth data, geographic zone, and TV watching also served as socioeconomic status proxies. Mothers' descriptions of their daily lives and the home they shared with their children expanded on SES factors and the complexities contained within these proxy variables.

Mothers described both liminal and multifaceted definitions of health. Good health was dependent on food and articulated at a basic level as whether one is alive or not. Good health also encompassed socioemotional health or psychological aspects of child development, encouraged by appropriate parenting approaches and giving the child "freedom." Mothers articulated ways in which health affected their children's attendance, cognition, and achievement. Mothers also saw their own health overlapping with their primary schoolchildren's health, often in the sense that mothers' health suffered due to their struggles to care for their children. Whereas circumstances differed across the three study sites, there were intersections and commonalities in health issues, such as the endemic nature of malaria. There was also variation in health determined by differing circumstances, such as incidence of cholera and typhoid depending on water source.

### Series of Environments Embedded in the Home Affect Health and Literacy

The physical, social, economic, and linguistic environments mothers and their children inhabit contain situational givens. I combined "social" with "gender" to describe one layer of environment in the home as gender norms, practices, and roles largely define the social environment of the family and community. These layers of environment and situational givens determine health issues and outcomes for mothers and children. These givens are cyclical in that they cannot be simply corrected with a linear approach and surpassed. For example, the physical environment will persist in having challenges with water scarcity due to its geographic and climate conditions whether a well or other water source is put in or not. The layers of environments are also interconnected and influence one another. The series of environments and what characterizes them follows in the next four sub-sections.

*Physical Environment*

The Physical Environment refers to the natural environment, or the geographic and climatic conditions that surround the family. Water presents a constant focus in the lives of mothers and their children. The scarcity of water, which is especially acute before the rainy season starts (during my field research period), leads to a large expenditure of time on the part of mothers and their children in attaining water at an increasing distance from home. Rains are coming later than before due to climate change effects on the coast in what was already a marginal ecosystem. The uncleanliness of the water that is available carries health risks as well. Due to water scarcity, children's school attendance drops commensurate with inadequate food for the family, inability to bathe or to wash school uniforms, and children handling home chores or skipping school while their mother spends the day finding water.

*Social Environment*

The Social Environment refers to the structure of the society and family, specifically related to gender-driven norms that dictate home labor patterns, public labor options, and locus of control dynamics of motherhood and parenting. Mothers' responsibilities for the family well-being and their children's health, development, and schooling formed the basis of their lives within their physical, social, and economic environments. Because the mother's role is central to the child's development, health, and education as she is the primary caregiver for the child, her persistent marginalization due to gender handicapped her. Because of this structure, mothers described their locus of control as external to themselves yet still showed evidence of resilience in carrying out their responsibilities in spite of various challenges. Mothers, especially at Noanini, when shown the materials in the classroom where the focus group was held that children were using to be taught to read as part of the EGRA intervention, voiced an interest in learning what their children were learning at school about letters, sounds, and basic reading skills. Among Swahili women (at the Noanini focus group), mothers described the father's role as bringing home income and food for the mother to prepare. The Giriama mothers at Noanini, such as Kabibi, talked about fathers as absent or dead, so that mothers did not rely on the fathers to fulfill any income or food-finding role. Some Swahili and Giriama mothers cited their own fathers and the fathers of their children as the decision makers when asked why they did not attend school or why they did not seek further treatment for a sick child as with Heela in Chapter Five, this volume.

*Economic Environment*

The Economic Environment refers to livelihood possibilities that dictated income options and also refers to costs for services, such as hidden school

fees as well as health clinic and medicine costs. The economic environment of the home was strongly dependent on the mother's income-generation responsibilities. As discussed in Chapter Five, this volume, mothers described being the breadwinners and sole caregivers in the home due to an absent or deceased husband or sociocultural expectations of women as responsible for all activities related to providing for the children, locating and securing water, and preparing food for family meals.

### Linguistic Environment

The Linguistic Environment refers to the home language environment and its separation from the school language and literacy environment. Language and literacy represented a deep and far-reaching set of issues. The linguistic formation of the child comes from his or her mother in the language the child speaks at home and in the community, but this language was for most children ignored by the school in efforts to teach reading. The child arrived at school and was treated as a blank slate rather than as a student with prior knowledge or background knowledge to be tapped into for learning to read. Being cut off from school literacy due to the language of instruction, the inability to read and perhaps never having attended school, mothers' involvement in the child's schooling was hindered and her parenting of her child was compromised. In Chapter Five, this volume, mothers described experiences with their child's growing school literacy through practical functions within their local environment, such as a child reading a label on a can. Mothers also pointed to their own capacity for involvement in schooling and in helping their child by working around their limitations and seeking out siblings and neighbors who could help with homework. Mothers also described an inability to read prescriptions and notes written by health workers. This lack of reading capability led to missing information about their child's diagnosis and the medicine they had been directed to give.

### Returning to the Proximate Determinants Model

International development literature pointed to socioeconomic status (SES) as a limitation that spawned entrenched barriers to reading achievement as depicted in Chapter Two, Figure 2.2, this volume. In turn, SES could not increase because of health deficits. The factors that were influenced directly by SES in that model included maternal factors such as education level, childrearing practices including by whom and how children are cared for, nutrition and disease (arguably, if SES were higher, then children would increase food consumption and reduce disease incidence), and illness control. In essence, when applied to this case in coastal Kenya, increasing SES would result in access of Kenyan families to health care centers and better prevention of and resolution of sickness. In this model, each of the variables could be tested to see how it affected learning to read. Because SES also had a direct effect on school attendance in the model, the family's economic

situation could be tested against its impact on the child's presence at school. Because early childhood nutrition was also a determinant of permanence in school, proclaiming a need for a child to attend school so as to overcome their low socioeconomic status did not address the health-related reasons behind the child's erratic attendance or lack of attendance.

### Interconnecting Environmental Layers in the New Model

In building a grounded theory model from this research, I returned to the proximate determinants framework in Chapter Two, this volume, to make changes. The findings from this study supported the construction of a grounded theory model that connected the environmental layers found within the home with health, and health with schooling-related outcomes that affect literacy formation. The layers of environments in the home affect the health of the child and the mother. Health, as well as all the layers of environment in the home that construct health, also affect literacy. After working on a Mothers' Perspectives Model to illustrate the embeddedness of health and literacy in the home and the embeddedness of the home in a series of environments (Mount-Cors, 2010), I returned to the proximate determinants model to develop a Sociocultural and Socioeconomic Proximate Determinants Model depicted in Figure 6.1 below.
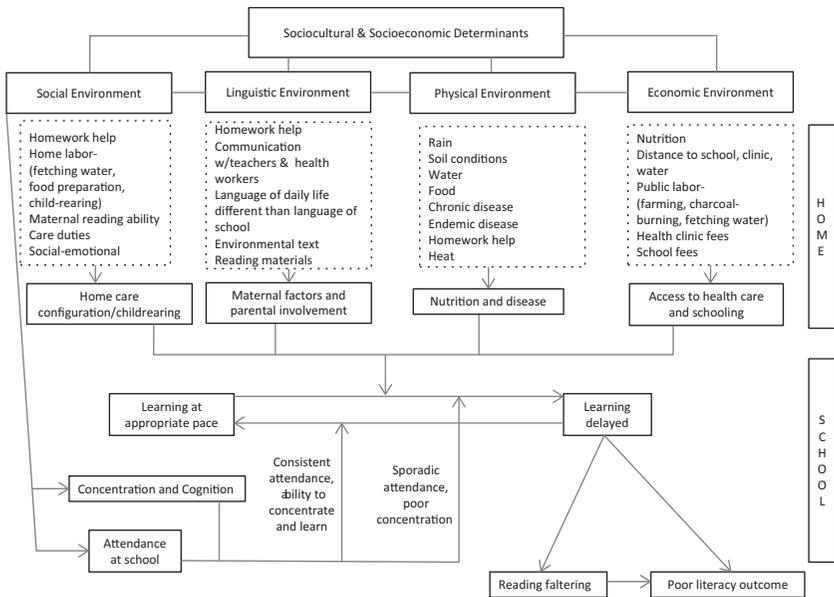


*Figure 6.1* Sociocultural and Socioeconomic Proximate Determinants of Home Effects on Literacy

The maternal factors (term used in proximate determinants model) were expanded into an exploration of mothers' perceptions, which have formed the building blocks of the new model. Each layer of the home environment deepens the inquiry into maternal factors. The childrearing situation was embedded in the series of environments of the home. The linguistic environment of the home was determined by the mother's language and the language she speaks with her child as well as by her access to school languages. The social environment dictated the mother's gender roles and responsibilities, and the physical environment directly affected the mother's ability to succeed in attaining water, in farming, and in participating in an income-generating livelihood. The economic environment involved the mother's livelihood and ability to bring in adequate income for food. Mothers tied their children's health to locating and retrieving water for cooking, drinking, and bathing. Water was contained in the physical environment layer of the home, but was also part of the social environment in that women were responsible in the social context for getting water for the family.

Nutrition and disease are spread across the environmental layers as both are tied to the economic environment (ability to maintain a standard of health in the home, to pay health clinic and transport costs, or to lose potential income-generating time to seek care) of the home as well as the linguistic (ability to navigate health clinics and understand diagnosis, read medication). Likewise, the physical environment grounds nutrition and health in the home as water sources are implicated in endemic illnesses and lack of water leads to poor nutrition. The social environment also determines the mother's ability to seek care beyond and in tandem with the economic issues related to care-seeking. Access to health care is wrapped in the social environment as well as the physical, economic, and linguistic environments.

The social environment is connected to the linguistic environment. The first language of the majority of Malindi area children, Kigiriama, is the one that they learn at home from their mothers: their **mother** tongue. Women mentioned being excluded from school due to their father's decision to keep them at home, as with Kabibi; others had completed some level of primary schooling, but did not consider themselves literate in any language as with Kabibi, Kadii, Sidi, Kache, and Neema (see Appendix E). At other research sites such as in southern Mali, most recently in 2015, I have seen a reluctance on the part of mothers to claim literacy or reading skills in the school language even after completing a school cycle through secondary. This hesitance may indicate a lack of confidence and a lack of time and space to practice literacy skills when in school and especially after leaving school. Whereas boys are expected to be active in the public sphere, girls are often expected to be at home with care and food preparation duties. They do not circulate in areas in which they would use school literacy skills. This area of gender difference in literacy needs further investigation. Among the Kenyan mothers, school literacy and language were not accessible to them. Because of being excluded from school-home literacy connections as non-school languages are unwelcome at school

(see Chapter Four, this volume, description of use of mother tongue at school), mothers' gender remains an underlying exclusionary force and limitation on their public involvement and engagement at schools and health clinics.

LeVine, LeVine, Schnell-Anzola, Rowe, & Dexter (2012) present the case for a *causal* influence of maternal schooling on child outcomes through literacy and language skills acquired in school, focusing on constructing and testing a theory of the processes involved. These processes include: literacy mediation, which is the ability to understand communications in print and broadcast media that affects maternal health care knowledge and practices; academic language, which is the tendency to use abstract concepts and rules in oral communication, experienced in the classroom and facilitating their later interaction in other bureaucratic settings; and internalization, which is a teacher-pupil schema that predisposes women to act like attentive pupils in the presence of expert authority (like doctors, nurses, public health media) and like teachers in interactions with their own young children. These learned behaviors are positive effects of schooling on mothers' ability to raise healthy children that are beyond reading skills. These arguably causal influences are connected in the ways in which they may also inform the parental ethno-theories thinking discussed below.

### Reading Parental Ethno-Theories

The idea of parental ethno-theories (Super & Harkness, 2002) informed the analysis of mothers' perceptions as these ethno-theories provided cultural insight into sickness and health, gender norms and behavior, and funds of knowledge mothers tapped into in the care of their children. Consideration of the meanings of parental ethno-theories regarding their children's health also underlines my view of health as a sociocultural process. The developmental niche framework described by Super and Harkness contained three operational subsystems: 1) physical and social setting, which includes elements in home and school domains, including water, cleanliness, mosquito nets, etc., 2) historically constituted customs and practices of child care and child rearing, such as the views of Swahili women "moving around" less outside the home and Giriama women outside the home "looking for food," and 3) psychology of caregivers, which would include parental ethno-theories, perceptions of mothers, health of mothers, etc.

The organizational aspects of the developmental niche created development outcomes in the child. Super and Harkness (2002) referred to contemporary redundancy, which is a repetition of similar influences from several parts of the environment during the same period of development. Drivers that repeat themselves within the layers identified in the home environment present this type of redundancy in the model. Thematic elaboration, the repetition and cultivation of core symbols and systems of meaning, then flows from the redundancy of elements in the child's environment and reinforces the systems of meaning within the child's rearing and accepted societal norms. Chaining, the linking of disparate elements in the environment

to create a qualitatively new phenomenon, then emerges. For example, consider this equation: pathogens in the physical environment (emanating from an uncovered water source) + customs that spread those (practices for retrieving water) + parental ethno-theories that encourage a certain understanding and action (connecting water-borne disease to exogenous factors) = self-perpetuating cycle of illness within the school and community. The self-perpetuating cycle of illness could be the various related symptoms discussed as "devil's disease" or could be the endemic nature of malaria in the community, or could be the combination of these factors within the local context. Whereas we point to the need to unpack the value of starting from parental ethno-theories in building new theories and models, this also demonstrates the need for future research in this area.

*Poverty, Child Development, and Reading*

Kainz and Vernon-Feagans (2007) use an ecological model so that simultaneous developmental influences from children and the contexts they live in can be considered and potentially multiple interventions targets could be identified. The dynamic interaction among child, family, classroom, and school systems is represented as the literacy ecology, and Kainz and Vernon-Feagans propose that performance on a reading test is less an assessment of the child than an assessment of the literacy ecology, which is influenced by the child and also influences the child. Reading development emerges from the literacy ecology as seen in Figure 6.2 below.
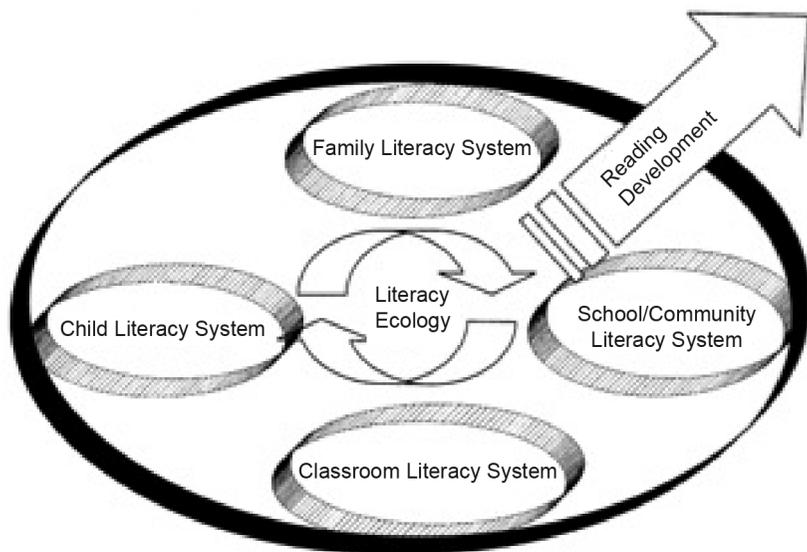


*Figure 6.2* Kainz & Vernon-Feagans (2007) Literacy Ecology Model

## Conclusions and Implications for Theory, Research, Policy, and Practice

As education efforts extend beyond focusing on access to concentrating on quality of schooling in interventions such as EGRA, contextual variables that affect schooling need to be incorporated. Bartlett, Dowd, and Jonason (2015) note in their article on problematizing early grade reading: "Despite what we know about the importance of school readiness as well as the impact of home and community literacy environments, these have not been adequately addressed." Literacy approaches must move beyond such de-contextualized, psycholinguistic approaches in order to accommodate "marginalized" (UNESCO, 2010, para. 2) populations. Reaching marginalized people involves making changes to the education systems that claim to serve them. The very system that has contributed to their marginalization in the first place cannot be expected to free them from marginalization. System soul-searching and smart reforms need to start within literacy interventions to ensure quality education for marginalized populations. Smart or responsive development (Steiner-Khamsi, 2004; Nordtveit, 2010, 2008) requires smart or responsive literacy interventions. Literacy projects that respond to the learner's and the locality's needs would not merely point to SES proxy variables, use the term poverty to characterize an entire population and name it as the cause for school failure, but would instead address the deeper foundations of these labels and the roots of low literacy progress.

The focus on enrollment of children in school has neglected the fact that attendance is a key to student achievement regardless of curricular and teacher issues. In rural schools like those outside of Malindi town in coastal Kenya, known health challenges have not been connected to student attendance or to gauging the effectiveness of teaching and learning practices. Interventions, such as EGRA, that rely on students attending school and being cognitively able to learn have discounted the appreciable impact health and contextual challenges have on student progress. The EGRA teaching approaches advocated in this intervention were useful in that they helped students learn fundamentals of reading and enhanced the teacher-student process of learning. EGRA's intervention, thus, countered restrictive pedagogy (Moloi, Morobe, & Urwick, 2008) and focused on teacher training, which improved teaching aids, teachers' knowledge, teacher-pupil interaction, and assessment, four of the areas that move in a positive direction away from restrictive pedagogy. The intervention did not, however, engage health-related constraints, home literacy and multilingual environments, mothers' involvement in the child's literacy, and cultural identity around literacy.

The aim of school literacy efforts in this case was not just to get children to read, but to get children to read in two languages they do not speak at home, that they do not hear regularly and that their mothers cannot read. Children in this setting, along with their mothers, do not have access

to environmental text on shops or signs and they do not have a receptive vocabulary to call on when learning the building blocks of reading at school. Similar to focusing on enrollment numbers, concentrating on a reading measure such as in this intervention, gauges education system and teacher success with a quantifiable outcome that ignores the context and the multitude of factors contained within it. The context includes linguistic and environmental layers, which includes health. These contextual factors characterize children's and mothers' lives together. Separating children from their context and from their mothers in the schooling process does not turn off the context itself; rather, it turns off the benefits of building on the child's context. This type of limited approach will work for only a very small percentage of children as seen in the post-intervention reading scores.

## Gaining Perspective on Quantifiable Reading Measures

Looking at growth is very different than looking at raw scores. Schools that showed growth started at a low point, with many zero scores and very low averages on each of the reading measures. Schools that showed negative growth generally demonstrated considerably higher reading scores in the baseline data than schools that had high growth in scores from baseline to post-treatment. Because growth depends on where the school started, it makes sense that the most rural schools would demonstrate the most growth because they started very low (such as Shadakunu). If no explicit teaching of reading skills was done in some schools prior to EGRA, then the intervention would have more of an effect than in schools where some reading instruction and some minimal reading success was already taking place. It is also of note that, in this EGRA example, control schools improved more than treatment schools overall.

In addition, establishing an international standard for reading expectations raises questions. Expecting second-grade coastal Kenyan students to test within the same range of words per minute as a U.S. second grader does not account for the vastly different contexts of these locations. The Kenyan students are learning English as a foreign language at school, but in this case are being held to a supposed international standard in reading progress in that foreign language. Benchmarking for expected reading outcomes for EGRA is ongoing in additional countries and languages, with a workshop on this sponsored by USAID offered by the Global Reading Network in 2015. Kenya is an Outer Circle country, not an Inner Circle country in terms of global Englishes (McKay & Bokhorst-Heng, 2008) as described previously. The assessment methods in the EGRA study would be more useful if the children spoke English as a first language. The results of the intervention demonstrate that EGRA reading instruction approaches may break down literacy skills in a useful way for reading instruction. Nevertheless, literacy interventions need to also ask what literacy skills in what languages are

being investigated, which ones make sense to measure, and at what level when entering each context.

Thus, whereas EGRA's intervention model did have an effect on schools' reading achievement growth and on teachers' skills and practice in teaching students the basic building blocks of reading, there are limitations in the design and assessment used in EGRA. The international standard approach to teaching literacy necessarily ignores the contexts of the children and families who populate the school. Instead of merely trying to improve on that type of intervention, I am advocating the use of a more efficacious, intersectional approach to intervention that embraces the context. Literacy is linked to all of these intersecting axes of identity and sites of potential oppression and privilege in children's and parents' lives. Key aspects of this type of intervention include capitalizing on the mother-child relationship and physical environment, social environment, and linguistic environment interconnections.

## Maternal-Child Literacy and Maternal-Child Health

The data collected from coastal Kenyan mothers suggest that literacy interventions are missing a major component when they fail to realize that a mother's literacy is linked to the child's literacy just as her health is linked to her child's health. Mothers describe their health as linked to their children in that they suffer from many of the same endemic diseases, but also in that their own health suffers from their energy expenditure and deprivation in caring for and feeding their children. Meanwhile, the mother and child literacy linkage is defined in the data in terms of its disconnection rather than its connection. Mothers do not often recount home literacy events or practices they participate in with their children, but rather point out in most cases their own lack of literacy skills while proudly offering observations of their child's budding literacy skills. Furaha, Jumwa, Pendo, all of whom report not being able to read in any language, point out a child being able to read or write one's name as evidence of their child learning to read. Kadzo, who reports the ability to read in English, Kiswahili, and Kigiriama, gives an example of her child reading a wrapper on a food item as evidence of the child's literacy skills.

Learning language and developing literacy are life course issues. Starting off schooling by divorcing children from their home literacy, then filling them with inputs in two foreign languages has correlated on the macro level with poor educational outcomes and high dropout rates. On the other end of the life course, more limited adult literacy opportunities are available than in the 1980s (KNBS, 2007), but are offered in local languages, which is incongruent with the primary school approach to literacy. These literacy efforts need to be coordinated over the lifespan with literacy building across the years. The rigid and high-stakes exam system, expensive and exclusive secondary school system, financial burdens, and regional and ethnic

disparities in the Kenyan education system need to be addressed as part of the macrocontext of literacy building. Reports from bilateral and multilateral organizations (UNESCO, 2006; Nag, Chiat, Torgerson, & Snowling, 2014) point to building rich literacy environments. Family literacy models[1] also have moved toward not only transmitting school practices to the home, but employing a sociocontextual approach that incorporates not only the family, but culture and community (Auerbach, 1989). The model contained in Figure 6.3 below suggests the need for multigenerational approaches (mother to child and vice versa) to literacy and health that connect the generations as well as the sectors (health to literacy and vice versa).

Programs globally target women for health interventions to improve the health of their children. Literacy interventions could borrow elements of this approach in addressing children's literacy, while also engaging mother and child health. Maternal and child health perspectives focus on the disparities in health care and health outcomes occurring in varying racial and ethnic groups grounded in social structures and rooted in a mix of cultural, economic, historical, and political factors. Understanding the relationships between social processes and health is a driving force of maternal and child health research approaches that try to get at the heart of social determinants of health disparity. Likewise, these sensibilities and goals need to be internalized in a maternal-child literacy perspective. Figure 6.3 presents the Maternal-Child Literacy and Health Model, which illustrates the multigenerational nature of literacy and health as well as the intersectional nature of literacy and health as they move within
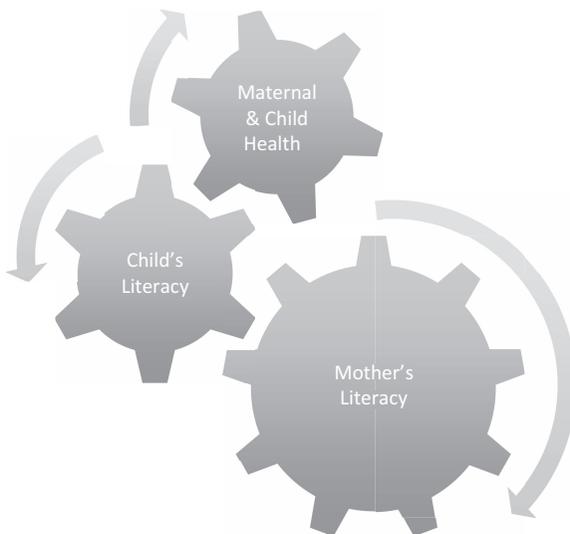


*Figure 6.3* Maternal-Child Literacy and Health Model

the mother-child relationship. *Maternal-child literacy* would apply a life course perspective akin to that drawn on in maternal-child health. This perspective combines a sound understanding of human development and the social determinants of literacy as they intersect across the course of one's life and across generations. This perspective puts appropriate attention on intersectional analysis, in seeing how gender, ethnic group, language group, culture, health conditions, and economic situation have effects on children's and mothers' literacies. Elements of family literacy, cultural analysis, and additive schooling come into play in this type of model to combat literacy inequities.

### The Wheels Are Turning

Taking into account the moving parts of a child's life rather than focusing on one skill and one domain in isolation demonstrates how a mother's literacy is central to the child's literacy as well as to maternal and child health. In this model, the arrows indicate that a mother's literacy can drive a child's literacy, meaning both that a mother educated at school in the languages of schooling will affect a child's school literacy success positively because she can help her child with homework, read her child's notes and teachers' notes, and help her child read environmental texts written in school languages. Mothers from each study site, including Kabibi and Pendo, offer commentary on not being able to read the teacher's notes or marks on the child's paper and feeling frustration over consequently not knowing how their child is doing at school. In addition, a mother who has not achieved literacy in school languages, but has oral literacy skills and may or may not have written literacy skills in her home language is still forming her child's early literacy in the home language simply by interacting with the child in the home. In fact, a parent's responses to their young child are most critical in developing early literacy. These interactions, this talking between parent and child even if in response to baby babble, are the building blocks of the child's language and literacy skills (Snow, 2015). A mother's literacy in both school and home languages directly affects her child's literacy formation in home and school languages. With these wheels turning, the mother's and the child's health status are affected. A mother and a child who form literacy skills in written and oral communication are equipped to talk with health workers, read medicines, read signs at the clinic, and become empowered in navigating and articulating their health status. The literacy mediation (LeVine et al., 2012) that is developed as a result of maternal schooling becomes a critical health and education tool for her child.

The wheels also turn in the opposite order. Maternal-child health status represents a strong force for the child's literacy in that health and gender affect the child's school literacy formation moderated by attendance, attaining achievement goals, and environmental scarcity that determine water and food availability. The child's literacy formation also affects the mother's

literacy as she recognizes the evidence of literacy the child gives in the home, such as reading labels, medicines, and helping siblings and neighbors with homework. The mother also may develop oral literacy skills in the school language from contact with her children while the mother remains illiterate in any language in terms of reading and writing a language. The model illuminates the multigenerational pursuit of literacy and health. The mother and the child need to be enlisted as part of a family unit for efforts toward improvement in both areas to be successful and become inculcated in a cyclical manner within the family, society, and culture.

In the study data, the mother's health was tightly linked to the child's health just as her literacy was described as linked to, yet disconnected from, her child's literacy. As explained previously, the mother in particular plays a critical role in building the child's early literacy in the home, equipping the child with oral language and receptive vocabulary that the child then relies on when learning to read. Achievement in school literacy, meaning the process of learning to read at school, is linked cognitively to home literacy, which refers to the process of learning to listen, speak, and develop a pool of receptive and productive vocabulary in the home language. Early readers rely on these skills when they are learning to read (Collier & Thomas, 1989; Snow, Burns, & Griffin, 1998; Tabors & Snow, 2004). When school literacy is completely divorced from home literacy as was the case with Kenyan pupils, the process of learning to read does not unfold in this manner. Because of the home language being primary for the child, when that language is not used in teaching the child to read in any way, then the child is faced with a difficult task of learning to read in a second and third language without connection to the first.

## Policy, Practice, and Research Implications and Contributions

The study reinforces the close relationship between adult literacy and child literacy, and particularly the need to work with mothers when aiming to improve child literacy. The study also illustrates women's crucial space within the family and community in tying together health and education. The disjunctures found between mothers' realities and development discourses result in a foundational critique of the best practices and evidence-based wave of development approaches. Importing outside models may not meaningfully interrogate local contexts. Communities, families, mothers, and children need to be the place where development starts so that people develop on their own locally sustainable terms. The economic, social, linguistic, and physical layers of environment within the home determine mothers' ability to provide basic health and education for their children. By departing from the socioeconomic determinants prism and arriving at a sociocultural processes lens, the study recasts the ways literacy, health, and development approaches should move forward.

The main components of the literacy model considered in this study included a psycholinguistic approach to teaching reading skills in two school languages that were not the home language of the majority of the students in the intervention. What was missing was an investigation of the context and a reckoning with what this type of intervention was asking students to do. Students without any recourse to home support, either through solicitation of background knowledge in the classroom or involvement of mothers or mother tongue in early reading, were being asked to learn to read in two foreign languages by second grade. Areas that could be added and changed in curriculum, teacher training, and stakeholder intervention are discussed in the following pages. Table 6.1 contains a model for literacy intervention that starts from the EGRA inputs in this instance in Kenya (Teacher Training and Assessment) and sums up what is missing both in those input areas and in input areas that were not part of this EGRA, including what to add and curriculum changes to make.

### *Capture Home-School and Mother-Child Connections*

Children do better when parents become more involved in schooling. EGRA data shows that sisters and mothers have the most positive effect on children's reading growth. The qualitative data also show the mothers' interest in EGRA approaches to reading instruction and how to help their children succeed in school. Family literacy models include mothers in literacy efforts for children by helping them develop reading skills and also gain knowledge on how they can teach their children at home with simple tools and insights. Early childhood intervention using letter recognition and sound recognition in the child's home language would be engaging and beneficial for mothers and children, both for initial building blocks of reading and for strong comprehension skills as the child continues in school.

Parents are not equipped to help children learn to read when they are not themselves equipped with literacy skills or support tools. This study contributes to the literature on the relationship between adult literacy and child literacy. To improve child literacy, education initiatives need to work with mothers as well. Participatory dialogue needs to seek out mothers, the primary caregivers of children who are learning to read. Rather than remaining exogenous to mothers, literacy can become indigenous when children's first literacy models, their mothers, become involved. The ideological model of literacy (Street, 2001) and the delineation between language socialization and language education (LeVine, 2003) contest the psycholinguistic approach to literacy that targets a linear progression of reading skills, disconnects the home language of the child from the literacy initiative, and approaches the child in a vacuum rather than as part of a family or mother-child dyad. This study has pointed further to the critical nature of a mother's involvement in the child's reading and literacy formation. Adult literacy program components that could be added to child

*Table 6.1* Literacy Intervention Model

| Inputs | What's Missing | What to Add | Programmatic Areas |
|---|---|---|---|
| Teacher | Language Learning Continuum | Acquisition and reading in first and second languages | |
| | Bilingual & Dual Language Research | Transfer of skills across languages | Models/Examples Songs, Letter-Sound Connections, Receptive Vocabulary |
| Assessment | Home-based Literacy Skills of Students | Authentic Assessment in Early Literacy Skills | Assessment: Prior & Background Knowledge Home Literacy Practices/Events |
| Parents | Parent Involvement | Mothers (esp.) engaged in reading intervention | Adult & Family Literacy: Basic & Functional Literacy Skills, Language Comparisons, Income Generation, Health |
| Community | Home-School Connections Literacy | Using home literacy to build initial reading skills | Curriculum building, multigenerational |
| | Health | Home- and Community-based assessment | Sector Integration: Resource Checklist, (water, crops, school population, local, govt) Livelihoods Assessment (jobs, income-generating options, skills) |

literacy efforts include the Spanish government's approach to literacy in Latin America. In this model, adults meet in literacy circles in three cycles each of six to eight months after which they have completed the equivalent of primary education (Cortina & Sanchez, 2007). Staking a claim to "principles of justice" and working to build "capacity and autonomy" means that women need access to language (Enslin & Tjiattas, 2004, p. 514). To be able to engage in discussions about "human rights, health education and an informed and critical perspective on domestic and international politics" (Enslin & Tjiattas, 2004, p. 514), women must be talking and thinking in their own language (Freire, 1970/2000). This gaining of skills and knowledge in their own language does not preclude them from learning second and third languages, rather it enhances their potential to take

on more languages, make connections between and among them, and harness them for building a stable life for themselves and their families.

## *Accommodate Home Environments*

To become responsive to mothers' and children's environments, made up of situational givens that moderate children's school-related outcomes, literacy initiatives can institute a home assessment process that focuses on health by examining food, disease, and childrearing. This connection would help develop a comprehensive approach: a reading program, with instructional practices imparted through teacher training, balanced with an examination of home environments, which identify resources, practices, and critical issues. A teacher-led assessment with a whole-child focus could achieve this as well. An EGRA type screener is used, for example, for many US kindergartners, but patterned on early childhood assessments like mClass. These screeners include not only items to gauge language development, but also cognitive development, health and physical development, emotional and social development, and approaches to learning. As mentioned previously, Save the Children has done some related work on home literacy environments, finding that they are more predictive of reading growth than gender or socioeconomic status (Dowd, Friedlander, Guajardo, Mann, & Pisani, 2013). In our case, we would include elements such as food security in the home literacy environment broadly speaking. The literacy intervention could then act on insights from the home assessment, such as mothers' hunger, "looking for food," and a dearth of livelihood and income-generating options, scarcity of water, and the ramifications for children's lives. An uncovered well at school versus a tank of water at school, both of which are affected directly by amount of rainfall, affect the health of the child and mother, which affects attendance at school. Health issues such as older girls' "devil's disease" could also be investigated and discussed in ongoing group meetings of mothers, which may yield a connection between the onset of the disease in anticipation of caning or as a symptom of malaria. More information about and more investment in health and home would enhance literacy interventions.

Mothers also can be plugged into local groups with an income-generating focus or literacy focus that they may not know about or have access to join. Women need to know about ways in which they can support their children, which they describe as the central occupation and motivation of their lives. As they learn about how to help their children's literacy formation through home support and through their own literacy learning efforts, they can also participate in microfinance initiatives and income-generating pursuits, which will not only provide food and fees for their children, but will help engender a more internal locus of control. Development occurs within communities and through the amount of agency that women have to take part in changing the community. For education and health to both advance, the two sectors move forward together, which will happen through the empowerment and action of mothers and women (Waage, Banerji, Campbell, Chirwa,

Collender, Dieltiens, Dorward, Godfrey-Faussett, Hanvoravongchai, King-don, Little, Mills, Mulholland, Mwinga, North, Patcharanarumol, Poulton, Tangcharoensathien, & Unterhalter, 2010).

Sectors need to be connected within a literacy intervention. Sector blindness and siloing, as when education projects and health projects exist separately in a vacuum at the planning and implementation levels, hinder educational interventions due to persistent issues in water and sanitation that exist in the culture and directly or indirectly influence children's schooling. Health is heavily stressed in policy goals and discussed as going hand in hand with education, but not addressed with further depth. By borrowing traditional health frameworks and sensibilities to model education effects in literacy, this study has tried to establish a give and take between the two sectors at the conceptual level. The study has pointed to the fact that health is implicitly contextual and determined by the physical, social, economic, and linguistic environments. Home assessment will answer items on a checklist that are musts for a school community to have a sound and successful literacy intervention, such as water source, food security, school feeding, and a health baseline.

### Rethink School Literacy Curriculum

To be an indigenous process as is the hope of an intervention like EGRA, reading has to, in fact, become an indigenous process. "Indigenous" implies ownership by those who are doing it, it implies a natural inclination towards it, and it implies becoming a common, habitual part of the culture. In order to make health practices indigenous, and with a belief that improved health practices come about through literacy, then program designs and implementation models must return to literacy to make literacy itself indigenous. Unless some barriers are removed to secondary school, such as exams and the high cost of secondary school, the low number of Kenyan students completing school will persist. In addition, most students who start primary school will not spend enough years in school to become fluently or functionally literate in English or Kiswahili and will conduct their lives as an illiterate person in those languages, while using their home language for daily interactions and transactions as seen with focus group participants (see Appendix D). Because the system of schooling has systemic issues of exclusion as noted above, until these are eliminated, only a small percentage of people will stay in school long enough to become literate and fluent in English.

### How Do You Make Literacy Indigenous?

Numerous voices have called for the inclusion of local or home languages or mother tongue in early schooling for building literacy skills in both the home language and the official languages (Adegbija, 1994; Robinson, 1996; Bunyi, 1999; Ntarangwi, 2003; Djite, 2008; Trudell, 2009; van Ginkel, 2015). I echo those voices, but also offer policy recommendations for school

literacy efforts that go beyond making the cultural and linguistic case for home languages. The multilingual, multiethnic context of literacy represents a strength rather than a hindrance. Rather than sidelining mothers who are merely expected to get their children to school and promote their schooling while being effectively cut off from it, literacy interventions would draw in mothers, use their input, and include them in literacy education by connecting home literacy to school literacy in concrete ways.

Trepidation about using home languages in primary education in Africa is often based on perceived costs to the school system and perceived benefits to the learner in the labor market as well as an embrace of the national integration effects they associate with education in an official language. A counter-argument is that, with languages recognized and shared within each region, ethnolinguistic differences and similarities would be open for all to see and consider instead of being ignored and stifled. The students would still be working toward the goal of becoming literate in the official languages of Kiswahili and English while using their home languages in the early educational process. This process would start an authentic schooling experience for children of each region. When human-driven discourses on development, such as Sen and Nussbaum's capabilities approach, mention "promoting basic education, especially literacy" (Enslin & Tjiattas, 2004, p. 514), they must grapple with to what literacy or literacies this type of admonition is referring. To be human driven is to take up the mantle of multilingualism and indigenous language literacy as a goal and as a gateway to multiple literacies and as a critical cog in the development of literacies for the child.

### Rework Teacher Training Alongside School Literacy Curriculum

First, policymakers and practioners would look at the region of language use. This process would include cultural context exploration as well as predominant and minority home languages as measured by which languages mothers of primary school children are speaking, singing, and teaching to their children from birth to early primary age. The program would enlist both teacher leaders and mother leaders who would attend a national training. Government-employed primary school teachers are posted all over the country in Kenya and could be teaching in an area where the local language is not their own native language, so this issue would have to be resolved. Meanwhile, most early childhood teachers are locally hired and supported, so they tend to be native speakers of the local language.

The methods and approaches of teaching a language apply for any language one could teach, but also are shaped by whether students are in an English as a Foreign Language or English as a Second Language situation. The difference between teaching a foreign language in which the locally dominant language is different than the one you are teaching (such as in teaching French to students in the U.S. or teaching English to students in Afghanistan), or teaching a second language in which the locally dominant language is the one you are teaching (such as teaching English in the U.S.

to recent immigrants from a non-English-speaking society), is the context in which the language is being taught. In the case of ESL, the teacher has the advantage of having students surrounded by the target language. It is not spoken in their homes, but it is around them in environmental text, in stores, media, among students at school, and in workplaces. In the case of EFL, such as in an Outer Circle country like Kenya (McKay & Bokhorst-Heng, 2008), context has to be constructed in the classroom to make the language authentic and alive to the students. Because Kenya is an Outer Circle country, English is not the language surrounding students in stories, media, workplaces, and among friends.

In both EFL and ESL cases, the use of culturally based songs and rhymes and active learning approaches, such as Total Physical Response, appeal to the student kinesthetically and spatially to build early literacy first through listening and speaking, then through reading and writing. The students would be learning in their home languages as a bridge to learning Kiswahili and English. Transition to the school languages of Kiswahili and English would be the goal rather than structured immersion or maintenance (Tsung & Cruickshank, 2009). Students would learn basic early literacy skills in their native language and would transfer these skills to their second and third languages. Teachers and mothers would come together to chronicle native literary practices, to write them down, and make charts about them. They would develop language lessons for the second language learner rather than continue on the track in which the child's home languages are ignored and forbidden. Dual language/immersion education models in the U.S. (Cortina, Makar, & Mount-Cors, 2015) and other countries could provide insights. The ethos to pass along to teachers would be: Use what the students know in teaching them. Teachers need to understand the continuum of language learning—that they are aiming to begin a sound process that will make their students sophisticated users of language by the age of 16.

### Investigate and Incorporate Inclusive Models

Whereas I have referred to Western developers and the Western development paradigm as quite limited in inclusive approaches to literacy interventions, I have not yet discussed current models coming from that same community of developers that are inclusive of indigenous literacy components. Save the Children UK published a guide (Pinnock, 2009) to language issues in schooling in multilingual environments specifically discussing global contexts in which the home language is not the same as the language of instruction. Drawing from Malone's (2008) progression plan for using both languages across the primary years, Pinnock (2009) includes a mother-tongue-based-multilingual-education model. The L1 is the home language and the L2 is the school language or language of instruction. Van Ginkel (2015) lays out choices that need to be made depending on the languages' context, pointing out that a dual language or additive approach is generally the most successful when learning in more than one language. Some of

the language mapping that needs to occur within a given context includes: languages spoken in and around the school, languages teachers speak and at what level of proficiency, literacy skills of teachers in the languages needed at the school, attitudes of teachers, parents, the community, and the children about the languages, and literacy practices and reading materials available in the L1. On the same panel at the USAID 2015 Global Education Summit, research from India demonstrated that there is a threshold level in many languages that children need to reach in L1 before introducing L2 (Nakamura, 2015). This threshold approach was suggested as applicable in most of South Asia, Southeast Asia, and parts of Africa. In research presented from Nepal, an "indigenized approach to EGR [early grade reading]" and "school-community linkages" are proposed, with challenges to address in making parents aware of language issues in education and handling diverse school communities with several mother tongues in one classroom (Awasthi, 2015). An undersecretary of education from the Phillipines explained that the bridging from one language to another will depend on contextual factors as van Ginkel had suggested as well, and also reiterated a new framing for multilingualism, that it is a gift rather than a hindrance (Villaneza, 2015).

In addition, Save the Children USA implemented Literacy Boost in Malawi, a project that aimed to strengthen children's reading ability through both community and teacher-focused components. The intervention included parent workshops, which both literate and illiterate parents attended. Children whose parents were involved in at least one workshop demonstrated greater gains in reading. When asked how to improve the parent workshops, a common response from parents was to teach parents to read and write so that they could better help their children (Dowd, Wiener, & Mabeti, 2010). RTI International also studied the use of mother tongue in primary schools in Central and Nyanza Provinces of Kenya, finding that in spite of policy stating that mother tongue would be used in early grades, very little classroom instruction occurred in the mother tongue even in the earliest grades. The report recommended adding mother tongue elements to the KCPE exam (Kenya Certificate of Primary Education) so that the school and community would place importance on learning the home language at school (Piper, 2010). As a result of EGRA experiments in Kenya and other countries, RTI International has looked further at L1 in recognition of L2 scores being low and difficult to improve without any L1 use in the teaching of reading.

### Balance Research Methods

International development projects are also research projects, and are viewed increasingly so with the more stringent emphasis on design, monitoring, evaluation, and learning. Donors and organizations locate models, adapt them to a country and a population, and try them out to see how they work. Donors and organizations train local development partners so that they can collect data after an intervention. The goal is to improve an

identified outcome, such as student learning, in a certain area by focusing on some aspect of the problem, then measuring to see if the intervention worked. Project staff reports the results and then the organization and development community use the outcome data and lessons learned to increase the body of knowledge about how to combat that particular development issue. Considering in more depth the theoretical and historical point of view from which the project designs and results come as well as expanding the accepted methods of going about development research will enhance these primarily quantitative approaches.

### Account for Quantitative Data Limitations

Assessment and evaluation of student outcomes drive educational knowledge creation and reform efforts. A focus on quantitative approaches to development and education research represents a faith in numbers and what they can tell us. If projects and interventions can make the numbers go up (reading scores, math scores) or go down (dropout rate), then the problem will be solved. This research method can be classified as an etic approach as it necessarily derives from an outsider's perspective (Pike, 1967; Goodenough, 1970). A team comes to the school site, administers the assessment measures, and reports the results.

I focused first on the etic approach used in EGRA by working with the quantitative data to discern what results emerge that are defensible statistically and theoretically. I explored how to make the most of quantitative data limited by its research design and constraints. I inspected the veracity of quantitative results by questioning the design, structure, and assumptions (Klees, 2008) made in carrying out a quantitative reading achievement study. In pursuit of results that make amends for the flaws in the quantitative design, such as in sampling, I used statistical methods to account for the sample switch. Some aspects of the quantitative study represented symptoms of the Western-centric etic approach to reading achievement and disregarded key elements of the contextual reality, such as reading achievement in this context being characterized by second or foreign language acquisition rather than learning to read in the native language. A claim of objectivity by an etic research approach cannot stand because no development approaches are objective as a result of being shaping by the outsider's own context and how the understanding of developing world problems derives from that contextual grounding and way of problematizing the observable deficits.

### Use Both Etic and Emic Approaches

Whereas an etic approach is and wants to be an outsider's account, an emic approach involves by definition an insider's viewpoint. Rather than trying to understand why coastal Kenyans behave in the ways that they do with respect to school literacy by finding out about their "perceptions and interpretations of their social reality" (Ogbu, 1990, p. 522), researchers have

focused on evaluating and assessing coastal Kenyans' behaviors largely in terms of white middle-class U.S. perceptions and interpretations. A U.S. population sees Kenyan children then as another example of a minority population failing at school, rather than as a majority population minoritized by the post-colonial school system and focus on the former colonial power's language and culture.

Emic approaches need to be included to give the perspective of those who live within the soup of the identified problem, those who live inside the context and can reflect on the issue from within. When studying culture through emic approaches, I am aware of the multiple perspectives within a single mother's responses. Her situatedness within the soup of her culture does not preclude the competing perspectives within the group or within one respondent, for example. Also, any emic approach includes the interpretation of an insider's words by an outsider, whether native to the culture or not. The study of a cultural context is never monolithic, but rather multifaceted and steeped in gradations of understandings and beliefs about various problems or issues within the culture. Feminist thinkers, such as Harding (1991, p. 212), implore us further to "start from women's lives." She takes this stance on standpoint epistemology to reduce the "partial and distorted accounts" (p. 212) of culture that arise from research that does not attune to this sensitivity to multiple accounts. The lives of women within varying societies provide a place for "a woman of European descent to start her thought" (p. 212). Likewise, insight comes from analyzing Western knowledge and accepted practice from the perspective of the lives of women in varied world settings. This brand of women-centered research can address the central questions of the education system, such as literacy, and literacy's connections to health and home as well as future livelihood options.

My qualitative research effort supplemented the etic with an emic approach by listening to voices from within the culture and the local context. Taking a mixed methods approach in this study, I sought to augment and explain the quantitative results through the use of qualitative methods in the field. The quantitative data then became contextualized, richer and more useful in guiding educational inputs (Courtney, 2008). The qualitative research incorporated the perceptions of coastal Kenyans involved in the reading study, namely mothers of second grade children who were receiving the EGRA treatment and testing. Development data on health and education in Kenya and in Coast Province informed the lines of questioning employed with focus groups of mothers. Because early health as well as current health of the second grade child had an impact on their educational outcomes (Lloyd & Hertzman, 2009), mothers were asked about their second graders' health from birth until age five as well as current health issues, and health practices in the home.

Literacy and health conditions on the ground informed the quantitative data in very concrete ways. The data served an explanatory purpose of making sense of the constraints on the reading scores that were inherent in the environments the children and families inhabit. The qualitative findings also

reinforced how the dominant development paradigm has not taken into account second or foreign language acquisition and second/foreign language reading literature, such as sociolinguistic reading theory and reader-response theory (Rosenblatt, 2004). But even beyond these literatures, the quantitative data did not take into account that the child goes to school and learns in second and third languages with no recourse to the first or home language; the child's receptive vocabulary is not being used to build reading skills.

## Future Research

The paradox of international affairs such as the U.N.'s literacy decade 2003–2012, discussed in Chapter One, this volume, to reach the "most marginalized" when marginalizing practices inherent in the school system were used to reach those very people needs to be investigated further. In what ways have aspects of the education system in Kenya and in schools outside of Malindi town marginalized people? The social structures of the society may marginalize various populations, but the marginalization is also a result of the colonial system, which often reinforced ethnic separations and served to harden the boundaries between groups. The colonial era tinkered with what were once fluid categories and established systems situated in power and intractable lines of ethnic, religious, and language differences (Brantley, 1981; McIntosh, 2009). If Giriama people or coastal Kenyans in general are marginalized due to their lower rates of schooling and achievement, then going to the area and doing the same things—no schooling in their language and little access to continuation in secondary and university education—cannot be expected to demarginalize them. This failure to address the isomorphic model of colonial and societal marginalization results in continuing disregard for sound language learning and reading instruction within particular contexts.

Nevertheless, in Kenya, the country's history has shaped the people and the systems that were created in the colonial and post-colonial eras. The education system cannot be simply dismantled by a new idea or suggested improvements brought in by a donor as another outside way of seeing. The Kenyan government and populace voice an ownership of the school system evidenced by the respect for exam-driven achievement. In 2016, an overemphasis on exam performance in the Kenyan system led to national exams being leaked to students. As a result, the government of Kenya dismissed the Kenya National Examination Council and reconstituted it. In addition, the national curriculum is being reviewed to include a more rounded approach to education. The perception of blanket poverty on the part of donors and the national government in areas like coastal Kenya may turn the problem into one seen as too endemic to address, as deprivation of basic needs such as water, food, and health care can be acute. This viewpoint on poverty may then neglect the locally held indigenous strengths and the slight gradations in socioeconomic status that can make appreciable differences in children's and families' lives. The origins and objectives of the education system in

Kenya need to be interrogated with political will and buy-in from the government and the population.

In investigating the social determinants of health, a pediatric surgeon in the US, Dana Suskind, began to understand the impact of a child's socioeconomic situation on his or her language and literacy learning. The Thirty Million Words Initiative grew out of the assertion that, by the age of three, children who grow up with fewer resources in their homes have heard 30 million fewer words than their counterparts growing up in a home with more resources. Suskind also offered that the quality of input is just as important as the quantity, that children who hear less language also hear more prohibitions and fewer affirmations. She promotes a home visiting program in which in part the mothers who participate not only talk with their children more, but also learn the science behind why.[2] As a result, some research initiatives are underway in African contexts based on oral language use with mothers and children in the earliest months and years.

Building a child's vocabulary by talking with the child from infancy and the value of parent-child interactions in building literacy—and in the overall health and development of the child—are also found in the research of Catherine Snow and others cited in this book. This type of initiative echoes some of the discussion in the Urban Institute's report on instability's impact on children, mentioned in Chapter Two, this volume, with an examination of the impact of instability on core relationships, resources, place, and public supports. At the same time, a 2012 European Union report underlines the connections between early childhood literacy, parents, and a literate environment. If the foundation of literacy is in spoken language and reading competence builds on oral language proficiency, word knowledge, and syntactic knowledge, then children need to hear more words in order to be on the right track toward becoming literate. In short, in a home with parents who read aloud to their children and who have books accessible to children, those children become better readers. Once again, this admonition comes from a Western mindset in which multiple languages may exist in the culture, but a dominant language spoken by the majority of the population is the language of schooling. In Kenya and many other countries, as was the case in the schools outside of Malindi town, the two languages of schooling are not spoken at home by the majority of the students or their parents. How should and can parents be enlisted into a multigenerational literacy learning loop in these types of settings? What would family literacy look like in rural areas outside of Malindi town? Cao and Ramesh (2014), in their global review of parent involvement in child literacy, pointed out that some interventions show more promise than others: interventions that teach specific skills to parents, that are more structured, and that engage community tutors. These are further starting points for future programming and research.

Further research is needed on educational pathways of students and what works best at this point in history in specific cultural contexts, with informed soul-searching about the building of basic skills in reading and

the goals of literacy. Additional questions to consider include: What family literacy models would make sense in coastal Kenya and elsewhere? How is early childhood development (ECD) linked to primary schooling and how can the transition between the two serve the interests of the home, school, and community? Are early grade standards compatible with ECD objectives in the building blocks of reading, early literacy activities, and health? Future research needs to home in on the child's multiple environmental layers within the home and their impact on schooling, multiple generations and languages that are brought to bear on the child's health and early literacy, and the mother's capabilities in particular in forming foundational health and literacy status in and with the child.

Since my research focused on EGRA scores and EGRA schools to build a sociocultural model that takes into account literacy and health cross-overs in parents' and children's daily lives and to build home-school connections, it is important to close with a note about EGRA in 2016. In short, much growth in thinking about early grade reading at USAID, RTI International, and among the landscape of implementing partners has occurred since the research presented in this book was first published as a dissertation in 2010. This evolution in thought can be evidenced in solicitations for All Children Reading awards from USAID in 2015 and 2016. These requests for proposals include three overarching programmatic components: classroom reading instruction, delivery system (ministry of education), and **parent and community engagement**. The EGRA movement has adapted over the past 10 years, incorporating the learning from various contexts where it has been implemented and from the burgeoning body of research on literacy. Research studies built into USAID reading programs are also examining gender structures; teacher knowledge, attitudes and practices; and parent, sibling, and community involvement in young children's early reading. These are welcome developments for an expanding research agenda on early learning in developing country settings.

## Notes

1. Family literacy often includes parents reading books to children, children looking at books independently, children reading or pretending to read to themselves or others, and families visiting libraries or doing literacy-related activities in the community together.
2. For more on the Thirty Million Words Initiative, go to http://thirtymillion words.org/

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# Appendix A
## Research Methods

The definition of paradigm used in this study was proferred first by Thomas Kuhn: A paradigm is shared beliefs among a community of researchers or thinkers in a specialty area (Morgan, 2008/2007). The paradigm shift within the study not only encompassed research methods, but also reached deeply into the paradigms of education in development entrenched in interventions and programs, which tend to contain a research element, often in evaluation of the program's effectiveness.

The first phase of the study drew from an accessible pre-collected quantitative dataset: EGRA (Early Grade Reading Assessment) data. That phase was characterized by an etic approach in which outsider inquiry occurred through a quasi-experimental design and data collection was done by outside assessors. Whereas this approach is critiqued in this study, it is important to highlight that the dataset was useful for framing the literacy situation in Malindi District and testing basic health and student background questions in relation to reading achievement variables. This type of postpositivistic research approach (Phillips & Burbules, 2000) characterizes the dominant Western development paradigm. Not only are etic research approaches consistent with this paradigm, but a system of beliefs and knowledge described in Chapter Two, this volume, underlies the paradigm.

The issue of early literacy is the topic within the dominant Western development paradigm taken up in this study. An orthodoxy about early literacy in sub-Saharan settings is inspired by the first discourse Trudell (2009) describes, which is an economics-driven or 'World Bank' discourse. It may include a list of reasons for poor levels of literacy that remain mired in deficit thinking or a deficiencies model in which the problem lies within the non-literate people themselves. Meanwhile, structural inequality and, in this case, the established post-colonial educational structure, is held largely blameless and unexamined. The dominant Western development paradigm maintains an orthodoxy, thought to be contested, but still enveloped in the paradigmatic constraints, about women in development. The role of women in the development process has evolved since the 1970s, but the level of participation and connection by women to their children's literacy has not

improved significantly as a result of this evolution in thought about women as participants in their own economic and social development. Robinson-Pant (2008) addresses the need for mixed methods in literacy studies and policy-making, pointing out that the dominant economics-driven development paradigm is well served by the questions broached within a qualitative research pursuit.

Thus, to follow up on the data analyzed from the reading assessment, the second phase of the study was designed as a qualitative, interpretive inquiry, which took an emic approach. Inhabitants of the study sites, who were mothers of second grade students involved in the quantitative portion of the study, talked with researchers in focus groups. The research team also collected demographic data from each focus group participant in one-on-one interviews. This phase included interviews between the head teacher at each research site and me, the lead researcher for the study. Field notes were recorded during visits to the research sites and interviews were conducted with local government ministry officers, a quasi-governmental organization, and a non-governmental organization involved in the initial EGRA study. Figure A.1 contains a visual model of the study design.
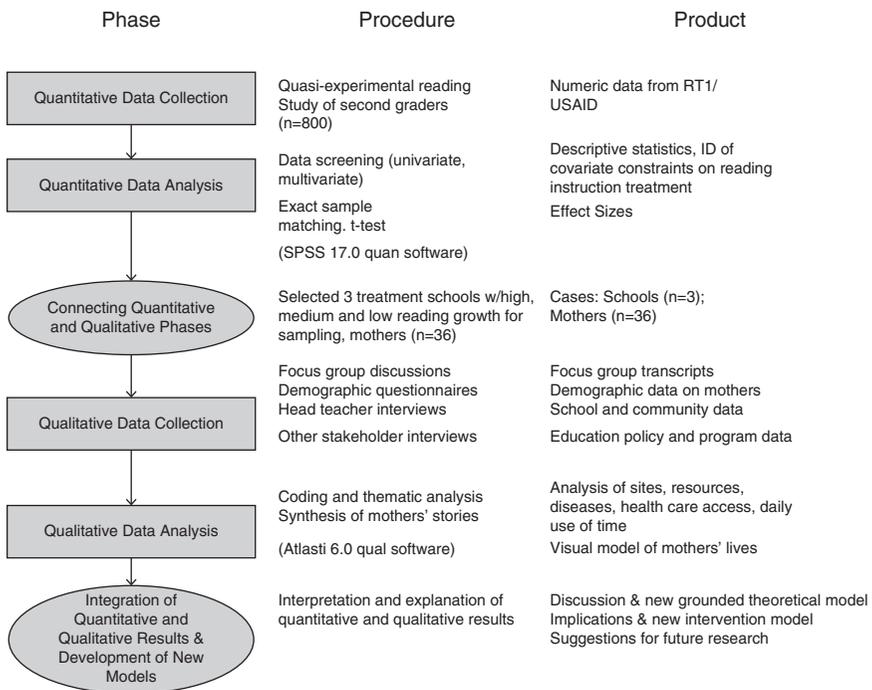


*Figure A.1* Visual Model for Mixed-Methods Explanatory Sequential Design Procedures (on the basis of Ivankova, Creswell, & Stick, 2006)

The qualitative phase took a constructivist approach (Creswell & Plano Clark, 2007) with a post-foundational/African feminist sensibility. The "subjective" and emic nature of this phase of the research called on local inhabitants of the research population to reflect on the issues involved in the research problem.

The overarching research questions for the mixed methods study included:

1. From a primary school reading dataset in Malindi District of coastal Kenya (Kenya Early Grade Reading Assessment-EGRA), among second-grade students, what variables are correlated with reading growth from pre- to post-treatment testing and which schools demonstrated high, medium, and no growth in reading scores?
2. From qualitative focus groups and interviews, how do mothers' perspectives on primary students' health and literacy outcomes inform the salient factors in the EGRA dataset?
3. Given the answers to questions 1 and 2, what are the determinants of literacy formation that are most promising and most modifiable?
4. What are the main components of the literacy intervention model used in coastal Kenya, what is missing, what can be added, and what areas of change are recommended for curriculum, teacher training, and stakeholder intervention?

## Study Sites

The quantitative data was collected in 40 schools in 5 geographic zones of Malindi District (part of Kilifi County as of 2010), whereas qualitative data was collected in three schools, which were all treatment schools in the EGRA study. The first site was in a coastal town north of Malindi town on the Indian Ocean, which showed no growth in reading scores. Over an hour northwest of Malindi town, the second site demonstrated significant growth in reading scores. The third site, west of Malindi town and to the west of the Jilore Forest, showed moderate growth on reading scores.

## Methods

This study examined reading scores in 40 primary schools in Malindi District in coastal Kenya, then explored health factors that affect school literacy formation for early primary students in three of those Malindi District schools. Using an explanatory mixed methods design, I collected qualitative data after analysis of quantitative reading data in order to explore health as a literacy constraint. The reading assessment data had been collected from 400 primary school students pre-treatment and 400 post-treatment in both treatment and control schools in Malindi District, Kenya, through a USAID-funded initiative that was carried out by RTI International and local partners in Kenya. The treatment was teacher training in reading instruction practices

for first and second grade teachers. The student assessment tested reading achievement growth at each school. Because health factors were not considered in the reading assessment, but are commonly cited as constraints on literacy formation in developing country contexts (Greaney, 1996), the qualitative phase was conducted to explore health and how mothers described its role and impact in the home, on the child, and on the child's schooling and reading. In this explanatory follow-up, health factors were explored with mothers of EGRA students at three EGRA treatment primary school sites. The reason for the explanatory follow-up was to help explain and build upon initial quantitative results. Exploration of health factors included health issues in the community for both children and adults, actions taken by mothers about health issues including perceived access to health care, meanings of health, and the impact of health issues on their second grade child's schooling including attendance, cognition, and literacy learning.

### *Quantitative Methods Used in USAID's EGRA Study*

USAID funded a study that was implemented by RTI and local partners in Malindi District on the coast of Kenya in 20 treatment schools and 20 control schools for a total of 800 cases in pre- and post-treatment samples collected in July 2007 and November 2008. The treatment consisted of teacher training that included a set of lessons in reading, focusing on phonological awareness (pre-reading skills, including listening and sound sensitivity), alphabetic principle (relationship of print to sound), vocabulary, fluency, and comprehension. Teachers received specific, lesson-by-lesson, week-by-week, lesson plans in a scope and sequence for the school year in both Kiswahili and English, the two languages used in schooling in coastal Kenya. Grade one and two teachers attended a five-day training on how to use these lessons. Teachers agreed to teach three reading lessons per subject each week in place of language instruction. The treatment school teachers received training, lesson plans, and visits from supervisors and teacher trainers. For pre- and post-assessment of students, only second grade teachers' students were tested, although grade one teachers also received the training.

### *Assessment Instruments*

Kenyan assessors identified by RTI's local partners sampled ten students randomly at each school site in June 2007 for the pre-treatment assessment and again in November 2008 for the post-treatment assessment. The assessment instruments included sections on background information about the child, letter recognition, word recognition, passage reading, comprehension, and phoneme segmentation. The post-treatment tests contained a different text passage so as to avoid repeating the same passage from pre- to post-treatment, but the instruments followed the same format and order of components at both test periods. Appendix B contains instruments used for the pre-treatment assessment in English and Kiswahili.

*Quantitative Methods Used in Secondary Data Analysis*

Part 1 of the mixed methods study involved secondary data analysis of the reading achievement data described above. Questions posed in Part 2 of the study, which was field-based qualitative research, were informed by the analysis done during Part 1. The basic health questions included in the November 2008 data collection included: Did you eat breakfast this morning?; How many meals do you usually eat a day?; Do you usually wash your hands before eating a meal?; Does your stomach or head hurt most days, some days, very few days or never?; Is anyone in your household ill most or all of the time?; Do you feel that you have learned to read at school?; and Do you read books or magazines at home most days, some days, very few days or never?. These questions were added to the post-treatment assessment to test whether these basic health-related questions would provide early clues about health profiles of the student sample.

*Quantitative Research Questions*

The secondary data analysis was guided by several research questions that would provide depth in viewing the reading dataset and focus in entering the qualitative phase. Part 1 of the study focused on the following three tasks:

1. To test whether a series of independent variables affected reading outcomes, regressional analyses were conducted.
2. To evaluate reading progress and whether the teacher training intervention had an effect, exact sample matching was used so that a student from the baseline could be matched on the covariates with a student in the post-intervention sample. Since the samples of students in the EGRA baseline and post-intervention were different groups of students, sample matching was needed to correct this sampling error.
3. To identify schools in which to sample mothers of second grade students for the qualitative portion of the study, the schools were rank-ordered according to growth from baseline to post-intervention. I chose a high-growth, moderate-growth, and low- or no-growth primary school for a total of three primary school sites from the treatment schools for the qualitative study.

*Qualitative Methods and Research Questions*

Part 2 of the mixed methods study involved face-to-face, on-site data collection through focus groups and one-on-one demographic interviews with mothers of students in Malindi District schools as well as observations at study sites, field notes, photographs, and interviews with head teachers and local stakeholders. Part 1 findings informed the questions posed during Part 2's focus groups. The purpose of Part 2 was to explore health themes as they

influenced reading achievement with mothers from three primary schools in Malindi District of Kenya. The participants included 36 mothers chosen through purposive random sampling from three schools in the Malindi District EGRA reading study. In light of the findings in the Part 1, all three schools chosen for Part 2 were treatment schools. Given that an effect was found from the teacher training intervention as well as the limited amount of time for field research, three treatment schools and no control schools were chosen for the qualitative phase in order to explore how health may have constrained the treatment effect. The qualitative phase used focus groups to pose open-ended questions about health and perceptions of health to mothers about their second graders in the home and how mothers perceived their second graders' reading achievement in relation to health factors. A demographic questionnaire was also used in one-on-one interview format with focus group participants. The research literature and themes arising in the initial focus group informed the questions included in the questionnaire. The responses rounded out information that may not have emerged in the focus groups, such as health indicators, an asset index, level of education, and maternal reading status.

This qualitative focus group approach brought mothers into the data collection process. Bloom (2005) suggests considering whose health is critical in children's educational outcomes and offers that the mother's physical and mental health should be examined before, during, and after pregnancy as well as the young child's nutrition and overall health. Bloom also states that qualitative studies that elicit more information on why and how people act represent useful complements to quantitative studies (2005). Furthermore, mothers are critical for the building of a child's literacy skills, especially bilingual children (Hammer, Davison, Lawrence, & Miccio, 2009). Mothers are the builders of health practices in the home for the child, from growing and preparing the food to cleaning and washing the home and the child (LeVine, 2003; Omolewa, 2007). Especially in rural areas of developing countries, mothers have been shown to be critical factors in increasing the child's health and reading outcomes depending on how much education they have achieved (Brown, 2006; Zhang, Kao, & Hannum, 2007; Kong, 2008). Strengthening home support for literacy also proves critical for reducing the urban-rural literacy gap in Africa (Zhang, 2006). In short, when wanting to uncover and expand on health status as it affects a child's reading achievement, the child's mother is the key source of information.

Scholars of African contexts have made the case for the applicability and usefulness of qualitative research methods in Africa (Brock-Utne, 1996; Vulliamy, 2004). In addition, quantitative data already exists on reading and discrete educational outcomes as seen in the RTI/USAID dataset used in Part 1 of this study. Another quantitative survey research effort would duplicate results rather than deepen understanding of what lies beneath the quantitative findings. A mixed methods approach was employed, using

quantitative data as an initial frame, but embarking on qualitative discovery as well so that the research can "explain the world more from the bottom up and less from the top down" (Weber, 2007, p. 298) by investigating contextually specific social constructions of health. Qualitative methods allowed for exploration of perceptions about health in the home and how these critical factors in a child's life affect the schooling experience and literacy outcomes.

The research questions that guided Part 2 of the study included:

1. How might health factors in the home influence school attendance and school achievement?
2. How do mothers perceive their role in the child's health?
3. How do mothers perceive the school's role in the child's health?
4. How might sickness in the home affect the child's care structure in the home?
5. What do mothers prioritize in the home for health and education? 5.a. What do they perceive to be the health issues in the home and how do they deal with them? 5.b. What do they perceive to be educational issues in the home and how do they deal with them?
6. How do mothers of early primary students perceive reading?

## Data

For the secondary data analysis contained in phase 1 of this study, the sample included 800 second-grade students across 40 schools in Malindi District of the Coast Province of Kenya. Half of the sample was made up of students from schools that received a teacher training program to improve reading instruction methods, whereas half of these schools did not receive the treatment. The students were split evenly male and female and indicated a variety of home languages. The students' socioeconomic status was not investigated in the data, but considered low *a priori*, and the majority of the sample did not speak either school language at home: Kiswahili or English. As a result, most of the students were learning to read in second and third languages at school.

The quantitative data included: questionnaire ID, division, zone and school name, school type (control or treatment), student age, student gender, pre-school attendance, home language, homework assistance, availability of reading material at home, radio listening at home, and TV watching at home. The data also include nine reading scores in Kiswahili and English: number of correct letters in Kiswahili per minute, number of correct words in Kiswahili in a disconnected text per minute, number of correct words in Kiswahili in a connected text per minute, number of correct answers to comprehension questions in Kiswahili, number of correct letters in English per minute, number of correct words in English in disconnected text per minute, number of correct words in English in a connected text per

minute, number of correct answers to comprehension questions in English, and number of correctly identified phonemes in English.

For phase 2, the sample of volunteer mothers represented the student population of each school. Mothers' ages generally spanned from 18 to 40, but were not recorded with participant data. Participants were only required to be mothers of an early grade student at one of the three schools that agreed to be in the study. Participants' students were in second grade. Mothers were generally from one of two ethnolinguistic groups, either Mijikenda/Kigiriama native speakers or Swahili/Kiswahili native speakers. Eight respondents reported having some English reading skills. The level of Kiswahili was low among non-Swahili mothers, with only five of those 25 respondents reporting having some Kiswahili reading skills. Only six respondents reported being able to read in Kigiriama. To accommodate the language diversity, the handouts for focus group participants and recruitment scripts were provided in English and Kiswahili. If participants took the form home after the session, then a literate household member could read the handout in Kiswahili or English and share it with the participant if she wished to review it. The facilitator also read the consent form in Kiswahili and Kigiriama to gain oral consent from the participants. Demographic questionnaires were prepared in Kiswahili and Kigiriama, with all questions posed orally in a one-on-one format in Kigiriama or Kiswahili depending on the participant.

### Existing Data Sources

Part 1 relied on a large dataset as described above, of student reading scores across 40 schools in Malindi District to ask various questions about reading achievement related to a series of variables in the child's life. Part 2 included a review of school data sources, primarily attendance records to investigate student permanence in school during the reading study period and after. After a lengthy, costly, and time-intensive application process, the Kenyan government issued me a research permit to carry out the study. The Kenya Ministry of Education and the school principals at the three study sites agreed to permit review of attendance records. No information was recorded about specific individuals. Instead, patterns of attendance of second graders in the three schools were noted. Reviewing attendance records was an unobtrusive method (Marshall & Rossman, 2006) of triangulating with varied forms of data collection. The research team learned, for example, that there had been a school strike by reviewing the attendance records.

### Limitations of EGRA Data

In developing a methodology for this study that included both quantitative reading data (on children in treatment and control schools) and qualitative data (from students' mothers at three treatment schools), the study's

approach was constrained by the sampling and data collection methodology of the USAID EGRA project. Firstly, the data did not include school, teacher, or peer effects. This study could not consider possible mitigating variables like teacher experience or credentials, second grade and within-classroom characteristics, and size, number of grades, and number of students in each class because those data were not collected by EGRA. Teacher effect variables would arguably make a difference since the treatment was teacher training and not direct student instruction, but no data on teachers were available. Student baseline characteristics were collected, but not teacher baseline characteristics. RTI considered that the measures and assessment design tested the teacher rather than the students. If the assessment tested the teacher rather than the student, it was unfortunate not to be able to test teacher variables. Furthermore, with the sample switch, the quantitative reading data were not longitudinal by student and so could only be interpreted at the school level. The data did not measure students' growth over time as the pre- and post-groups sampled two different groups of students. In order to determine the effect of the intervention with more precision, a matching strategy was chosen to match pre-and post-treatment cases with one another.

Also, in terms of sampling, 25 of the 40 treatment schools selected for EGRA were in the EMACK II program. EMACK II was the Education for Marginalized Children in Kenya program funded by USAID. These schools were, thus, already receiving a treatment of another type and isolating which treatment led to any change in teaching or reading at the site would be difficult. In addition, an effort to select treatment and control schools that had some geographic distance separating them so as to avoid sharing of instructional approaches and materials meant that treatment and control schools were not always selected from the same geographic zone, so were not a match in terms of key variables later correlated with reading growth.

In terms of assessment of students, analysis of the assessment instruments indicated that the most prevalent local language common to the sampled population, Kigiriama, was not used to give oral directions, which demonstrated a potential confound with oral comprehension of what the child was being asked to do. Often, in early stages of language instruction, students hear or read directions for a reading or writing task in their native language so that the task is clear and the instrument is not testing oral comprehension of the school language rather than reading skills in the school languages.

The reading passages themselves can be questioned in terms of their relevance to the environment. The reading passages are contained in Appendix B. For example, is the topic of the English reading relevant to a child in this setting? Does a typical Malindi District child have a dog that he or she plays with and gives a bone to? Is this a typical activity in this setting? Also, is the topic used in the Kiswahili reading one that would occur in this setting? The passage talks about a boy and his sisters going to the beach. Would a Malindi District child take public transport and go to the beach

for a pleasure outing? These are relevance questions that could be raised about the reading passages used in the study and point to testing error with regard to the reading process, such as possessing schemata for the topic, prior knowledge to connect to the text, and motivation related to text reading and comprehension.

### Data Collection

Several types of data sources and data collection strategies were included in the study: existing datasets, focus group transcripts, mothers' one-on-one interviews, stakeholder interviews (with head teachers, governmental and nongovernmental organizations), and field notes.

### The Research Team

I recruited two research assistants while in Nairobi before entering the Coast Province. A Kenyan consultant who shepherded my permit application through the required government offices recommended the person I interviewed and hired. This mother of three, who had experience working for several U.S.-based development organizations on field research in Kenya, became my focus group facilitator. She pointed me to another consultant, a Nairobi University undergraduate anthropology student, who became my focus group notetaker. Both research assistants translated qualitative research tools and transcribed and translated focus group data. Both women were born and raised on the coast of Kenya in the greater Malindi area.

The research team included two native speakers of Kigiriama who had grown up on the Coast and professed the Christian faith. Whereas these two research assistants maintained a polite and accommodating welcome for all participants in the focus groups, they also privately espoused stereotyped views about Muslim, Kiswahili-speaking coastal women. The notetaker told me in our initial interview that she preferred that the women in the focus groups not be Muslim. She said, "Muslim women are very difficult to deal with." She described how with Muslim women, "you talk and talk and go around and around and at the end, you have nothing." She preferred that the mothers in the group be from the same group. A homogeneous group would make the task easier, she thought (Field notes, March 6, 2010). I immediately discussed with her the requirement for a non-biased entrance into the field and she appeared a bit chastened but agreed to follow that admonition.

The facilitator talked with me about "*jinns*[1] that Muslims believe in," which suggested that she positioned herself as a cultural outsider to coastal Muslims and had preconceived theories about their beliefs and practices. She identified herself with each focus group as Giriama. At the Noanini focus group, where most women were Kiswahili native speakers and, thus, members of the Swahili ethnic group, she identified herself as "Giriama

pure" when encouraging the three Giriama mothers in the group to respond. At the Vikidi focus group, she immediately identified herself as "Jibana," which is one of the nine sub-groups of Mijikenda or Giriama people. She then said, "We are all Giriama," which was not accurate given the group make-up. She was making overt an aspect of herself that was perhaps assumed given her speech and her appearance, but unspoken until she herself proclaimed it. This open claiming of her ethnicity, language, and, thus, religion may have served to make her accepted and an insider to the group, but also served to set herself apart from those who did not fit the same description because it cut the area's groups into separate entities instead of aligning according to a category that fits all, such as Malindi District or Coast Province residents. Nevertheless, in the Noanini focus group, she added at one point, "We are all Africans," so her aligning with the group in that instance was inclusive.

The facilitator crossed over between Kigiriama and Kiswahili throughout the focus group sessions as needed. The two research assistants, while proclaiming a shared membership in the Giriama culture, also called out one another's linguistic differences, such as once when we stopped to ask directions and our notetaker jokingly commented that our facilitator had brought out her Jibana language accent and vocabulary to communicate with the woman beside the road. The research team also discussed the Kiswahili accents of various group members, saying of some Noanini participants that they spoke "Bajun Swahili" with certain letter-sound differences and intonation differences from their own Kiswahili.

I entered the field having had a year of Kiswahili study followed by nine months without regular contact with the language. Since my research assistants spoke Kigiriama together, our hours and days of transit, translation, and transcription did not include conversation in Kiswahili. I was frustrated by not being able to speak with mothers easily and not practicing my Kiswahili with my research assistants because I studied it in preparation for my field work. Nevertheless, I also embraced the need to stay in the background and observe the focus groups as a 'fly on the wall' rather than an involved participant. My Kiswahili reading skills helped in that I was able to administer (with periodic checking with a research assistant to make sure I fully understood the response) some of the one-on-one questionnaires with mothers in both Kiswahili and Kigiriama, which allowed me to connect directly with some research participants. Because Kiswahili is derived from Kigiriama and Arabic, I was able to also read the questions in Kigiriama, and this effort especially pleased research participants. My own language struggles helped inform me in some measure about the various situations the research participants find themselves in their daily lives.

*Qualitative Sample Selection*

In choosing schools for the qualitative phase, I used criterion sampling. Reading growth scenario, geographic location, and availability and cooperation of

the head teacher were factors for selection. In selecting mothers at each of the school sites, I used purposive random sampling in an attempt to find mothers whose children had irregular attendance and some who had regular attendance, variation on reading skills, and variation on health issues in the home through conversations with second grade teachers and head teachers.

Head teachers' cooperation eased access to our sample. At Noanini, the research team reviewed attendance records with the head teacher and second grade teachers. From looking at the records, the research team learned that during the third and fourth weeks of the term, the teachers were on strike and school was not held. The fifth and sixth weeks showed significant absenteeism. The head teacher suggested a few students with irregular attendance and a few with better attendance. The mothers of these students received a letter from the head teacher asking them to attend the focus group session. Three of the mothers targeted during this process came and took part in the focus group session. The remaining nine mothers in our focus group had come to the school grounds for a PTA meeting. The head teacher requested that mothers of second grade students raise their hands, and then asked nine of them to come to our session in the classroom instead of staying at the PTA meeting outside under the tree. At Shadakunu, a similar process was followed and the twelve mothers selected came for the first session. At the second site, all of the mothers in attendance were those to whom the head teacher had sent notice to come. At Vikidi, mothers were notified according to the head teacher, but only three arrived the day of our first session. The next day, more than twelve mothers came and some had to be turned away. Some of the mothers in the group may not have been those the head teacher sent letters to about the focus group, but rather arrived because they had heard about the group meeting or seen us assembling.

### Focus Groups

A qualitative approach was employed using focus groups to gain deeper insights into the why and how of students' health status in the home and how those factors affect the child's educational experience and achievement, specifically in regards to reading. Focus groups were indicated due to the relatively short amount of time for the field research and also because the themes in question did not require individual interviews for privacy and may be more deeply considered and discussed in a group rather than alone for participants.

As Marshall and Rossman (2006) suggest, the focus groups included 12 people each and capitalized on the idea that people's thoughts and opinions do not form in a vacuum. The questions were quite simple by design. The hope was that a supportive environment would be created where participants commented on one another's responses and more pertinent discussion ensued by virtue of the conversational scenario. The focus group approach allowed for discovering cultural foundations for health status and shed light on how health barriers were constructed within the culture and affected the attainment of education. The group conversation more closely mimicked a

collegial discussion than a research environment and evoked more depth of response than a one-on-one interview.

A focus group facilitator and a notetaker were identified through Nairobi-based Kenyan consultants. I conducted training for these research assistants on the interview protocol as well as ethics training, including information on privacy rights. The curriculum for this training was adapted from the FHI 360 research ethics training curriculum.[2] As well as ethics, the focus group moderators needed to be attuned to power dynamics (Marshall & Rossman, 2006). Sound facilitation skills were critical for the focus group facilitator and needed to unfold naturally within a conversational setting.

Focus groups started with mothers introducing themselves and telling about their children and their ages or grades in school. Then, the interview protocol began with a grand tour question (Glesne, 2006), which allowed for a wide range of responses. It was hoped that mothers would provide more information about the political and economic landscape and how it influences their child's life or broach areas of religion, ethnicity, gender, and SES not able to be investigated in depth within quantitative surveys. Disease history questions included questions aimed at exploring perceptions of the impact of malaria, fever, and convulsions in the second grade child over his or her lifespan. Health care access was another question so that the mother could inform about where and how often she seeks a health facility of some type and under what circumstances she has gone to the health center. In terms of education questions, mothers discussed how much help their child needs or wants at home with school work, whether or not the child is able to read at home, and perceptions of reading in the home. Appendix C contains the focus group interview protocol for sessions one and two in English, Kiswahili, and Kigiriama.

The first focus group served as a pilot for the rest of the study. The field workplan was set up to allow for immediate transcription of the data in order to feed analysis into the discussion guides through targeted revisions. The research team streamlined the focus group protocol and eliminated some redundancy by focusing questions on a sequence about health in the home the first session and moving into its effect on education in the second session. I learned about the language of illnesses in the area during the pilot, how much time it took for my two research assistants to transcribe and translate simultaneously, and the nature of language use and ethnic identity that the moderator would need to navigate in both Kiswahili and Kgiriama.

## One-on-One Interviews With Focus Group Participants

A questionnaire was used at the second focus group session at the first site using themes arising in the first focus group session to inform the questions. Three mothers did not return, so, at the first site, only nine questionnaires were collected. At the second and third sites, the questionnaire was given at the end of the first session so that potential loss of participants at the second

session would not result in loss of questionnaire data. Researchers using mixed methods approaches cite the use of questionnaires alongside qualitative interviewing to enrich their data (Glazer-Zikuda & Jarvela, 2008; Hascher, 2008). Appendix C also contains the one-on-one questionnaire for focus group participants in English, Kiswahili, and Kigiriama.

Brief interviews were relatively easy to conduct (Marshall & Rossman, 2006) because the sample was already present for the focus group sessions and was also comfortable answering additional questions in a familiar setting. The interview filled in information, such as mother's education level, socioeconomic index, religion, ethnic group, home language, and number of siblings in the home, but also probed on questions about what the respondent enjoys doing and how she handles stress.

The Kenyan research assistants, as Hennink (2007) suggests, validated the research measures themselves for feedback on rephrasing and reordering of questions prior to initiating focus group sessions. As a next step, we held the first focus group at the low-growth scenario school where the head teacher had expressed significant interest in the study. This step allowed for retooling the questions as needed before running the full battery of focus group sessions. Changes were relatively minor, such as the inclusion of a question about age at marriage and questions about how mothers cope with stress. I also learned that the questionnaire took one hour to administer and required that each respondent sit with a team member in order to hear and respond to each question. While wanting to make the questionnaire responsive to each focus group's remarks, it was more feasible to incorporate changes given responses from the first site rather than continuing to revise the questionnaire after each focus group session.

### Stakeholder Interviews

I conducted interviews in English with each head teacher, or principal, at each of the three school study sites. The head teachers were forthcoming with information about their school sites although some had more time or were more available than others. The lengthiest interview was with the head teacher at Noanini. At Shadakunu and Vikidi, interview time was cut shorter because the head teachers were called away to meetings either about sexual harassment policy or examination protocol with the District Education Officer in Malindi during one of my visits to the school. I also conducted interviews in English with key governmental and nongovernmental officials. The Malindi District Education Officer met with me at length at the close of the field research period.

### Field Notes

I took field notes at each study site and during the four weeks of field research. These notes included observations of the school study sites and

villages, and conversations with research assistants. I inhabited the role of participant observer (Richards, 2005) during the course of the field research. At times, my participation was quite heavy as in the first focus group session at Shadakunu where I spent time transporting a primary school girl, two of her friends, and two teachers to the health clinic up the road. Later, I wrote down impressions about the visit to the health clinic and returned to the clinic to take pictures of the facility and inquire about the girl's status. At other times, I stayed almost completely in an observer role during the focus group session, watching body language, reactions, and listening. My goal was to expect the participant observer role to be fluid and dependent on the surroundings and serendipity rather than maintaining a proscribed manner in which to carry out my role. When I had conversations with my research assistants while at a site, I was anxious to record notes before I lost the richness of their reflections on family, culture, and history. I wrote or filled in notes in the evening if I had not been able to do so while at a site. Later, upon return to the U.S., I typed up my field notes.

### Limitations of Qualitative Data

Not all health issues could be engaged in depth, especially stigmatized diseases such as HIV and AIDS. The presence or absence of HIV/AIDS in the household, while potentially disruptive to the home, was not a primary focus in this study, but was mentioned as one of many sicknesses and also arose within groups of mothers whose families were affected in some way. In terms of nutritional and other physical health questions about the mother herself, the information in the DHS about women's nutrition is less informative than for children. The DHS found that Coast Province women show the shortest stature of all the provinces, but further probing and data were not included (CBS, MOH, & ORC Macro, 2004). The same basic health questions that had been asked of the EGRA student sample allowed for a small insight into mothers' daily meal intake and presence of headaches/stomachaches, etc., in this study.

Time in the field was limited to four weeks due to school schedules and funding. The dates of entry into the field were framed by a school strike before and a school break that started at the end of the field research period. Our research team had to act very quickly and keep to a tight schedule in order to carry out the study at three school sites that were at least one hour apart by car. The qualitative phase concentrated on focus group sessions, one-on-one interviews, and collecting information at the school site. Home observations or visits with mothers outside of school could not be included given the timeframe. Spending more time seeking out and interviewing the nongovernmental organization community would also have yielded additional useful information on what is currently happening with mothers in adult literacy programs, school involvement, and other programs that may exist at various study sites. Also, more

information on EGRA teachers, their experience level, and their classroom practices would have shed more light on what the child's school experience looks like.

My appearance and status as a white, Western female also could be cited as a limitation because I was clearly an outsider and certain assumptions may have been made about what I wanted to hear and what was proper and improper to share with me.

### Ethical Considerations

Participants shared perceptions about health in a focus group setting. Risk of psychosocial harm was extremely low to non-existent—participants were not asked questions directly, but instead questions were posed to the group. Participants were reminded of the confidentiality of the sessions and that they were free to share in each response information that they were comfortable sharing. The facilitator, notetaker, and I were well aware that if a participant were to share a private health experience of an intimate nature and then later find out that another group member had broken confidence, then this could potentially cause the subject embarrassment or distress. The facilitator reiterated at several points that participants remain aware of the limited protection that the research team could provide. No names were used during the focus group sessions; instead each participant was given a number. The consent form was clear that all research field notes and transcripts of interviews would have no identifiers (such as real names). For reporting about the data, each focus group participant was given a pseudonym.

RECIPROCITY

Food and water scarcity were affecting the lives of the participants (Ityeng, Kapua, & Maingi, 2008). Local education consultants discussed with me the deprivation of sufficient food and water that characterized the lives of Malindi District mothers. After considering the situation, I decided that, given the time commitment requested from focus group participants, which was time away from income generating, farming, and finding water for themselves and their families, some small type of reciprocation in recognition of their gift of time should be supplied. Each participant was offered refreshment (a drink and a snack) at the first session, and then received a two-kilogram bag of corn flour to take home at the second session. This staple food item was considered the best form of remuneration from discussion with my Kenyan research team. Participants were encouraged to avoid missing a session because of another commitment or employment obligation, but at the same time, mothers could choose to come to only one of the sessions and could leave early as needed or desired.

CONSENT AND CONFIDENTIALITY

The focus group participants were invited by the head teacher after consultation with the second grade teachers and the research team. The women in the groups gave informed consent through an oral process in which the form was read and explained in Kiswahili and Kigiriama by the focus group facilitator. The research team entered each site to explain the study and also met with EGRA teachers and ministry officials prior to school visits to describe the study at a teacher award ceremony for those that completed the EGRA training. At one site, familial relations were uncovered with a group member once the first session was completed. This focus group participant's interest in acting more like friends or family than researchers and participants was concerning because it could suggest to group members an imbalance of power and connection associated with the research team. After the first session, I discussed with the research team the inappropriateness of this situation. The participant attended the second session, but was relatively unresponsive. Because the research team travelled in and out of the villages of each study site, the relationships with research subjects did not become any more difficult than the previously described case.

The consent form asked that participants not repeat what the group discussed during the sessions outside the group. An inherent and understood code exists, according to our facilitator, which dictates that mothers do not talk about "bad things or bad luck," which governed responses to questions about health and family. Mothers do not generally want to open up to questions about miscarriages, stillbirth, or children who died, for example. The study protocols did not ask particularly for this type of information, nor specifically about stigmatized conditions, such as HIV and AIDS. However, some participants divulged various pieces of information, such as a daughter who died of AIDS and whose baby the participant was now raising, which may or may not have been widely known or confirmed in the village. The risk of repercussions within the village if this information was repeated unduly could not be fully mitigated in spite of reminders of confidentiality within the group.

FIELD RELATIONS

As Mbilinyi (1998) suggests, I searched myself as I researched others. By doing so, I stayed open to involvements and turnabouts and was attuned to juggling cultural contradictions between my own culture and my subjects' cultures. Mbilinyi calls feminist research political practice. My research was intentionally feminist first in its commitment to talking with women, but also in its situatedness in African feminist departures from liberal Western feminism. My analysis kept these sensibilities close.

Throughout field work and analysis, I was keenly aware of my position outside the culture in which I conducted research. No amount of study or

experience can place me inside the culture. As a researcher, I was conscious of the advantages and disadvantages of my outsider status. Some awkwardness of language, address, and approach were forgiven by research participants. At the same time, apprehension and annoyance with who I was and why I was posing questions and making assumptions about an environment I did not come from were ready pitfalls, but were mediated and mitigated by the involvement of my insider research assistants. Mothers may have also hoped for future help of some kind from their attendance and participation. At the third study site, I asked our facilitator to ask the group what question the participants were not asked that needs to be addressed. The response came from one participant, "for those who are not doing well, how will you help them?"

Milner (2007) warns of various "dangers" (p. 288) in researching people of color in the U.S. Although I was not conducting research in the U.S., the critical race theory approach he invokes can be brought to bear on my role as a researcher in Kenya. Milner introduces a racial and cultural consciousness framework for conducting education research. I worked on "disrupting" (p. 389) some of the same elements of thought that Milner investigates: "notions of normality," "deficit discourses and beliefs," and "socioeconomic status rationale" (p. 389). A white, Western researcher such as myself learns and unlearns theories and perceptions of African populations throughout her life just by virtue of coming of age in a culturally hegemonic development mindset. Milner suggests the need to not only be en*light*ened as I may imagine myself to be academically and professionally, but en*dark*ened, which I address by engaging indigenous literatures from multiple disciplinary perspectives, including African feminist perspectives, and seeking out contextually grounded maternal attitudes. I must undertake the research while remembering the colonial legacy I carry with me as a white, Western researcher (p. 389). I needed to constantly strip the layers of my own cultural perceptions and received understandings about the way things are and should be to be able to stand within this research. Milner's framework encouraged me to research *myself* as well as *my self* in relation to others throughout the research process (p. 395).

## Data Analysis

The study included analysis of a range of data, such as secondary data analysis (conducted prior to field research), document review of school records in order to aid in sampling of mothers, focus group transcripts, mothers' demographic questionnaires, head teacher and other stakeholder interviews, and field notes. All of these data sources were triangulated in a sequential quantitative-qualitative multistage study design, with direct data collection during Part 2 of the qualitative portion. I listened for the multiple registers of experience (Sylvester, 1995) that subjects brought to this project. The

places and positions of our subjects were not fixed, which I kept in mind as I analyzed their various voices to see what themes emerged.

### *Quantitative Data Analysis*

SPSS 17.0 was used for secondary data analysis and SAS 9.2 was used for hierarchical linear modeling. Descriptive statistics and a multivariate analysis of variance with the outcome variables are described below. The main objective in using MANOVA was to determine if reading achievement was altered by the manipulation of independent variables. Main effects of the independent variables and interactions among the independent variables were investigated, and variables that possibly led to the growth and may have confounded the effects of treatment were searched. The continuous outcome variables used in the MANOVA were: letter recognition in Kiswahili, word recognition in Kiswahili, words in Kiswahili passage, letter recognition in English, word recognition in English, and words in English passage. Independent variables tested included: basic health questions (e.g., meals eaten in day, breakfast eaten or not, hands washed before meals, presence of headaches, stomachaches), gender, home language, presence of TV in home, radio in home, pupil's age, parental help on homework, and reading material in the home. Through regressional analyses, the number of covariates was reduced to three as the others did not have an impact on the outcome variables. Further inquiry was done into who provided homework help and the student's reading achievement through a Tukey's B, which showed that help from fathers correlated with low reading scores and was worse than having no help, whereas sisters' and mothers' help correlated with higher reading scores.

Preliminary analyses (prior to sample matching) had indicated an arguably small effect on reading scores from the teacher training intervention. Table 3.2 in Chapter 3, this volume, contains descriptive statistics prior to secondary data analysis. In order to look more closely at effect size, a sample matching technique was used. The sample matching methodology began by listing all students in the early grade reading baseline sample. A random sample of 100 students was taken from this sample. Post-treatment students were matched with baseline control or treatment students. For each student in this smaller sample, a match was selected from the post-intervention sample on the three covariates.

As mentioned previously, the students in the baseline data were a completely different set of students from those in the post-treatment data. The exact sample matching offered a method for matching students according to like variables. This method aimed to eliminate the issue of two different samples by matching the two sample groups on like variables (Felton & Wood, 1992). Exact sample matching was chosen because no further error is introduced as in propensity score matching. Also, the sample was not

large enough for propensity score matching once schools were eliminated due to the lack of match on geographic zone.

Preliminary analyses indicated that, while effect sizes were low, there was growth between the unmatched pre- and post-treatment groups. Exact sample matching results indicated greater effect sizes. In light of these findings, the limited time in the field was focused on treatment schools instead of including a control school in the qualitative phase of the study. Schools to select for the qualitative study were treatment schools with highest growth, medium growth, and low growth to explore health factors that may have constrained the treatment effect. The reading scores contained in Table A.1 demonstrate the amount of negative or positive change that was recorded in assessment scores at each school of the three schools included in the qualitative phase of the study.

## *Qualitative Data Analysis*

Kenyan research assistants served as the focus group moderator and note taker. The research assistants transcribed the focus group data within one to three days depending on the work schedule for each focus group session. The research team decided to transcribe from Kiswahili and Kigiriama, the two languages mothers spoke during the focus group sessions, directly into English. The research assistants, having been educated in the Kenyan system, expressed more comfort and precision in transcribing the oral data while at the same time translating from those two languages into English because they were most accustomed to writing in English rather than in their home language or Kiswahili. Hennink (2007) suggested that this strategy fits the circumstances often inherent in developing countries where the first language is often not the language commonly used for writing and schooling.

Data collection and analysis are co-mingled and ongoing in qualitative research. I reviewed the first focus group transcription in order to make

*Table A.1* Reading Growth in Three Selected Study Sites

|  |  | Pre-treatment | Post-treatment | Pre-treatment | Post-treatment |
|---|---|---|---|---|---|
|  |  | *Kiswahili* | *Kiswahili* | *English* | *English* |
| Word recognition | 1 | 14.5 | 14.0 | 8.9 | 6.8 |
|  | 2 | 3.8 | 22.9 | 1.6 | 19.1 |
|  | 3 | 11.8 | 22.6 | 8.9 | 18.6 |
| Passage reading | 1 | 11.9 | 11.3 | 10.6 | 7.2 |
|  | 2 | 2.3 | 22.0 | 2.1 | 22.9 |
|  | 3 | 9.3 | 22.8 | 12.4 | 27.1 |

Note: Table adapted from Crouch, Korda, and Mumo (2009). 1 is Noanini Primary School, 2 is Shadakunu Primary School, and 3 is Vikidi Primary School.

changes in the protocol for the second session as well as for future sites. I attended focus groups and read focus group interview notes immediately after each focus group session ended. This initial review was where themes began to emerge. Categories then emerged as I went back over the notes a second time and then a third. My process was patterned after Creswell's approach (2009) of moving from reading and memoing to describing, classifying, and interpreting.

This study aimed to investigate mothers' perceptions of their children's health and its consequences on their educational achievement. Generalization was not the goal of this study, but rather gaining an understanding of mothers' knowledges and perceptions about their child's health and its effects on learning. Instead, the goal of building grounded theory (Hennink, 2007) guided the process of drafting and revising the focus group and one-on-one interview protocols from the first study site to the second study site and then to the third study site depending on group responses and how the questions flowed. Grounded theory also drove the focus group analysis, with coding, then linking, then connecting the storyline as described by Daly (2007) as the Diamond Approach. Using this model of analysis, I moved through several stages, from open coding, to fracturing the data, to a middle period when the data is at "maximum complexity" (p. 239) and seems to blind the researcher. Then, I broke through the "blinding dazzle" (p. 239) of the data to a phase of reducing the categories and entering the axial coding stage. I made linkages between codes and determined themes that were rising out of the proliferation of codes. Then, the selective storyline began to emerge.

I used Atlasti 6.0 software for analysis of the focus group transcripts. I coded, and then reduced the number of codes by collapsing some categories before completing the coding of the final focus group transcripts from the third study site. During the coding, I was memoing as well with some webbing of codes and theory-building of mega-themes I was seeing and co-constructing with the voices in the data along the way. I was also linking codes together in groups and across groups using the software as well as hand-drawn maps. The selective storyline began to emerge. Kearney's (2010) understanding of grounded theory inspired and supported my quest for seeing propensities, themes, and seeking out saturation in the data while also attending to variation. Her confidence in the researcher's critical role in interacting with the data and my role's importance not just in the background of the data as it talks, but on equal footing alongside it, reinforced my resolve in analyzing the data. Logic is a critical part of grounded theory, which includes not just the verbatim transcript, but what I as the researcher thought while listening and going through the process of conducting the research.

The literature was a guide throughout the coding and analysis process. To report and display findings, I grouped coded excerpts of focus groups discussions under four headings in my text. As I continued with analysis, I also reviewed mothers' demographic data, head teacher interview data,

local stakeholder interviews data as well as field notes to enrich and reinforce findings. I organized my data according to the questionnaires I used with head teachers. The categories I developed in talking with them framed how I wrote about the study sites. My writing flowed from the coding then mapping then collapsing codes then returning to maps and so on until I settled on depicting four interacting quadrants of mothers' lives that contained overlapping elements. I took these codes and engaged in "conceptual bootstrapping" (M. Kearney, personal communication, May 20, 2010) to look at what moderates what and how this web of codes could emerge as a grounded theory that explains the full range of variation in the context.

## Notes

1. *Jinns* are spirits or invisible non-human beings referred to in the Qur'an and discussed in some areas as related to the Muslim faith and belief system.
2. To see more on these training materials, go to http://www.fhi360.org/sites/all/libraries/webpages/fhi-retc2/

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# Appendix B

## Early Grade Reading Assessment (EGRA) Instruments

**English Instrument**

*Section 1: Background Information*

Division. . . . . . . . . . . . . . . . . . . . . .      Zone. . . . . . . . . . . . . . . . . . . . ..

  1. School name _____
  2. Name of child _____
  3. Class: _____
  4. Age: _____
  5. Gender: _____
  6. Did you go to any nursery/pre-school? _____
  7. What language do you mostly speak at home? _____
  8. Who helps you with school work at home? _____
  9. What materials do you read at home? _____
10. Do you watch TV at home? _____
11. Do you listen to radio at home? _____

*Section 2: Letter Recognition (Use With Letter Sheet)*

*Instructions*

Give the sheet of paper with written letters on it and then follow with instructions as shown below. The assessor will say**:**

> **"Look at the letters written on your paper. Read them aloud starting from here. If you don't know a letter go on to the next one. I will tell you when to start and when to stop. Get ready. Start."**

or

> **"Angalia herufi zilioko kwa karatasi yako. Kama hujui kusoma, soma herufi ifuatayo. Jitayarishe kusoma. Nitakuambia wakati wa kuanza na wakati wa kuacha kusoma. Soma herufi hizi kwa sauti ya juu kwanzia hapa. Sasa anza kusoma."**

## Section 2: Marking Sheet: Letter Recognition

Mark the letters incorrectly recognized and read with a slash (/).

At one minute, mark the last letter read with a (]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| V | L | H | G | S | Y | Z | W | L | N | /10 |
| L | K | T | D | K | T | Q | D | Z | W | /10 |
| H | W | Z | M | U | R | J | G | X | U | /10 |
| G | R | B | Q | I | F | I | Z | S | R | /10 |
| S | N | C | B | P | Y | F | C | A | E | /10 |
| Y | S | Q | P | M | V | O | T | N | P | /10 |
| Z | A | E | X | F | F | H | U | A | T | /10 |
| W | G | H | B | S | L | G | M | I | I | /10 |
| L | L | O | O | X | N | E | Y | P | X | /10 |
| N | K | C | D | D | Y | B | J | R | V | /10 |
| V | M | W | Q | V | L | H | G | S | Y | /10 |

Count and write the total correct letters read: _____

## Section 3: Word Recognition (Use With Word List)

### Instructions

Give the sheet of paper with words written on it and then follow with instructions as shown below. The assessor will say**:**

> **"Read the words written in English on your paper. Read them aloud correctly and as fast as you can. For example, this word,** (point at the word) **"pot," is read as "pot." This word,** (point at the word) **"bell," is read as "bell." Now look at the words written on your paper. Read them aloud starting from here. Start."**

or

> **"Tazama maneno yaliyoko kwa karatasi yako. Soma maneno hayo kwa sauti ya juu, kadiri ya uwezo wako. Kwa mfano neno hili "pot", inasomwa "pot" kuanzia hapa. Neno jingine "bell" inasomwa "bell". Sasa angalia maneno yaliyoandikwa kwenye karatasi yako. Jitayarishe, anza kusoma".**

### Section 3 Marking Sheet: Word Recognition

**Note :** The word should be read in acceptable formal pronunciation.

Mark the words incorrectly recognized with a slash (/).

At one minute, mark the last letter read with a]

**Examples:**    *pot*    *bell*

| | | | | | | |
|---|---|---|---|---|---|---|
| *sad* | *dog* | *red* | *do* | *eat* | *fire* | /6 |
| *and* | *us* | *to* | *girl* | *then* | *he* | /6 |
| *as* | *hat* | *if* | *seem* | *get* | *too* | /6 |
| *house* | *sun* | *stop* | *lots* | *ear* | *pencil* | /6 |
| *food* | *at* | *they* | *big* | *the* | *some* | /6 |
| *last* | *run* | *fly* | *we* | *on* | *our* | /6 |
| *saw* | *walk* | *school* | *best* | *time* | *cow* | /6 |
| *boy* | *wall* | *chair* | *all* | *me* | *good* | /6 |
| *will* | *blue* | *size* | *fall* | *go* | *ride* | /6 |
| *hope* | *far* | *an* | *her* | *was* | *fun* | /6 |

Count the words read correctly: _____

If completed in less than one minute, write down the number

of minutes and seconds to completion: _____

## *Section 4: Passage Reading*

*Instructions*

Give a sheet of paper with the comprehension passage to the pupil and then follow with instructions as shown below. The assessor will say**:**

> **"I am going to ask you to read aloud the passage written on your paper and then, I will ask you some questions on it. Read as fast as you can. Ready. Start (start the stop-watch as soon as you say 'start')"**

Or

> **"Hiki ni kifungu cha ufahamu. Ningependa usome kwa sauti ya juu kisha ujibu maswali nitakayokuuliza. Jitayarishe kusoma. Anza sasa."**

## *Section 4 Marking Sheet: Passage Reading*

*Instructions*

1. Stop the child at one minute, unless they only have one sentence left.
2. Put a "]" mark after the last word read at the one minute mark.
3. Note the following:

   a. Mark incorrect words with a slash.
   b. Mark words omitted with a slash.
   c. Do not count words repeated/inserted.

4. If the child finishes more than three sentences, let the pupil proceed to answer the comprehension questions.

COMPREHENSION PASSAGE

| | |
|---|---|
| Kazungu had a little dog. The little dog was | 9 |
| fat. One day Kazungu and the dog went out | 18 |
| to play. The little dog got lost. But after | 27 |
| a while the dog came back. Kazungu took | 35 |
| the dog home. When they got home | 42 |
| Kazungu gave the dog a big bone. The little | 51 |
| dog was happy so he slept. Kazungu also | 59 |
| went to sleep. | 62 |

If the pupil completed reading the passage in less than one minute,
  record time at completion: _____

COMPREHENSION QUESTIONS

**Instructions:** After the pupil has read the passage, you take away the passage sheet before asking the questions. Translate the question(s) into Kiswahili for the pupil if s/he shows hesitation.

The Assessor will say: **"Now I am going to ask you a few questions about the story you have just read. Try to answer the questions as best you can"**
  **"Sasa ningependa kukuuliza maswali kuhusu habari ambayo umesoma. Jaribu kujibu haya maswali kadiri ya uwezo wako."**
  (For every right answer give one mark. The answers provided are to facilitate quick marking.)

| *The assessor will ask the questions below:* | *correct answer* |
|---|---|
| 1. Who had a dog? | Kazungu |
| 2. Was the dog big or little? | Little |
| 3. Was the dog thin or fat? | Fat |
| 4. Where did Kazungu take the dog? | Home |
| 5. Why was the dog happy? | He was given a big bone |

### Section 5: Phoneme Segmentation.

*Instructions*

There is no student sheet for this, as they read nothing. They only listen to the word the assessor reads. The assessor will say:

**"I am going to say a word. After I say it, tell me all the sounds in the word. If I say "Hen" you would then say / h //e/ /n/? Now you try it. Let's another word "hat". Tell me the sounds in "hat".**

If the child responds correctly say**: Very good, the sounds in "hat" are /h/ /a/ /t/.**

If the child does not respond correctly, say: **The sounds in "hat" are /h/ /a/ /t/. Now tell me the sounds in "hat".** *Make sure the child understands the instructions if necessary translate in Kiswahili.*

**The child should be allowed two minutes to finish as many items as possible. Pronounce the word twice. Allow 10 seconds for the child to respond. Provide the number and sounds of the words, mark it incorrect and move on. Score both the number of sounds (correct / incorrect).**

*Section 5 Marking Sheet: Phoneme Segmentation*

| Put a slash (/) through incorrectly said phonemes | | |
|---|---|---|
| shop | /sh/ /o/ /p/ | ____/3 |
| stand | /s/ / t/ /a/ /n/ /d/ | ____/5 |
| thank | /th/ /a/ /ng/ /k/ | ____/4 |
| bat | /b/ /a/ /t/ | ____/3 |
| seen | /s/ /ea/ /n/ | ____/3 |
| should | /sh/ /uu/ /d/ | ____/3 |
| up | /u/ /p/ | ____/2 |
| at | /a/ /t/ | ____/2 |
| top | /t/ /o/ /p/ | ____/3 |
| if | /i/ /f/ | ____/2 |
| Count and write down the total number of correctly pronounced Phonemes _____ | | |

**Student Sheets for English**: These were handed out to students during the assessments. The font used for the handouts was Arial 20.

| V | L | H | G | S | Y | Z | W | L | N |
|---|---|---|---|---|---|---|---|---|---|
| L | K | T | D | K | T | Q | D | Z | W |
| H | W | Z | M | U | R | J | G | X | U |
| G | R | B | Q | I | F | I | Z | S | R |
| S | N | C | B | P | Y | F | C | A | E |
| Y | S | Q | P | M | V | O | T | N | P |
| Z | A | E | X | F | F | H | U | A | T |
| W | G | H | B | S | L | G | M | I | I |
| L | L | O | O | X | N | E | Y | P | X |
| N | K | C | D | D | Y | B | J | R | V |
| V | M | W | Q | V | L | H | G | S | Y |

Examples:     pot     bell

| | | | | | |
|---|---|---|---|---|---|
| *sad* | *dog* | *red* | *do* | *eat* | *fire* |
| *and* | *us* | *to* | *girl* | *then* | *he* |
| *as* | *hat* | *if* | *seem* | *get* | *too* |
| *house* | *sun* | *stop* | *lots* | *ear* | *pencil* |
| *food* | *at* | *they* | *big* | *the* | *some* |
| *last* | *run* | *fly* | *we* | *on* | *our* |
| *saw* | *walk* | *school* | *best* | *time* | *cow* |
| *boy* | *wall* | *chair* | *all* | *me* | *good* |
| *will* | *blue* | *size* | *fall* | *go* | *ride* |
| *hope* | *far* | *man* | *her* | *was* | *fun* |

Kazungu had a little dog. The little dog was fat. One day Kazungu and the dog went out to play. The little dog got lost. But after a while the dog came back. Kazungu took the dog home. When they got home Kazungu gave the dog a big bone. The little dog was happy so he slept. Kazungu also went to sleep.

*Kiswahili Instrument*

SEHEMU YA KWANZA

Division. . . . . . . . . . . . . . . . . . . . . . . .        Zone. . . . . . . . . . . . . . . . . . . . . .

  1.  Shule: _____
  2.  Darasa: _____
  3.  Jina la Mwanafunzi _____
  4.  Umri: _____
  5.  Jinsia : (Msichana / Mvulana) _____
  6.  Ulienda shule ya Nasari: _____
  7.  Nyumbani mwatumia lugha gani: _____
  8.  Nani hukusaidia kufanya kazi ya shuleni ukiwa nyumbani? _____
  9.  Wewe husoma vitabu vyovyote au magazeti ukiwa nyumbani? _____
      _____
10.  Kuna TV ama Runinga nyumbani kwenu? _____
11.  Na radio je? _____

SEHEMU YA PILI: KUTAMBUA HERUFI

**Maagizo kwa Mhojaji:** Onyesha mwanafunzi chati ya herufi kisha useme: " Katika ukurasa huu kuna herufi ningependa uzisome. Tamka herufi hizi kwa njia bora uwezavyo. Tutaanzia hapa."

Tia alama kama / kwa kila herufi ambayo haikutambuliwa vizuri. Baada ya mwanafunzi kusoma kwa muda wa dakika moja weka alama] mahali ambapo atakuwa ameachia.

**"Angalia herufi zilioko kwa karatasi yako.** Kama hujui kusoma, soma herufi ifuatayo..**Soma herufi hizi kwa sauti ya juu kwanzia hapa. Jitayarishe kusoma.Sasa anza kusoma."**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *v* | *l* | *h* | *g* | *s* | *y* | *z* | *w* | *l* | *n* | /10 |
| *l* | *k* | *t* | *d* | *k* | *t* | *g* | *dh* | *z* | *w* | /10 |
| *h* | *w* | *z* | *m* | *u* | *r* | *j* | *g* | *w* | *u* | /10 |
| *gh* | *r* | *b* | *h* | *i* | *f* | *j* | *z* | *s* | *r* | /10 |
| *s* | *n* | *ch* | *b* | *p* | *y* | *f* | *ch* | *a* | *e* | /10 |
| *y* | *sh* | *r* | *p* | *m* | *v* | *o* | *t* | *ny* | *p* | /10 |
| *z* | *a* | *e* | *m* | *f* | *f* | *h* | *u* | *a* | *t* | /10 |
| *w* | *g* | *h* | *b* | *sh* | *l* | *g* | *mw* | *i* | *i* | /10 |
| *l* | *l* | *o* | *o* | *ng'* | *n* | *e* | *y* | *p* | *ch* | /10 |
| *n* | *k* | *ch* | *d* | *dh* | *y* | *b* | *j* | *r* | *v* | /10 |
| *v* | *mw* | *w* | *h* | *v* | *l* | *h* | *gh* | *s* | *y* | /10 |

Andika idadi ya herufi zilizosomwa sawasawa: _____

Andika idadi ya herufi zote zilizosomwa: _____

Iwapo mwanafunzi alitumia muda usiozidi dakika moja, onyesha huo muda alioutumia_____

SEHEMU YA TATU: KUTAMBUA MANENO

**Maagizo Kwa Mhojaji:** Onyesha mwanafunzi chati ya maneno kisha useme: **"Hapa kuna orodha ya maneno ambayo ningependa usome kadiri ya uwezo wako. Jitayarishe kusoma. Sasa anza kusoma. Tutaanzia hapa.**
   *Ikiwa mwanafunzi hatasoma maneno ya mstari wa kwanza mwachishe kusoma.*

| | | | | | |
|---|---|---|---|---|---|
| *ana* | *baba* | *kuku* | *taka* | *paka* | /5 |
| *jino* | *mbuzi* | *kiatu* | *lala* | *moto* | /5 |
| *maji* | *chatu* | *gari* | *jicho* | *povu* | /5 |
| *kula* | *kiti* | *vuna* | *uji* | *panya* | /5 |
| *ama* | *zaa* | *ua* | *nyuki* | *mpira* | /5 |
| *meza* | *sakafu* | *hisi* | *kikombe* | *meno* | /5 |
| *kiko* | *saa* | *ghala* | *nyumba* | *kucha* | /5 |
| *ng'ombe* | *mlango* | *samaki* | *shati* | *bibi* | /5 |
| *riba* | *kalamu* | *chaki* | *shule* | *chaki* | /5 |
| *dada* | *kaka* | *mende* | *nyasi* | *nywele* | /5 |

Andika idadi ya herufi yaliyosomwa sawasawa: _____

Andika idadi ya herufi zote yaliyosomwa: _____

Iwapo mwanafunzi alitumia muda usiozidi dakika moja, onyesha muda aliotumia_____

SEHEMU YA NNE:UFAHAMU

Maagizo Kwa Mhojaji: Mwambie mwanafunzi *asome* kifungu kifuatacho kwa sauti, na akadirie wakati atakaotumia kusoma. "Soma kifungu kifuatacho Kwa sauti, kadiri ya uwezo wako. Kisha ujibu maswali nitakayokuuliza. Jitayarishe. Tutaanzia hapa.

| | |
|---|---:|
| Jumamosi iliyopita Katana na dada zake, Kadzo na Fatuma, | 9 |
| walienda kuogelea baharini. Kabla ya kuondoka walibeba | 16 |
| mahamri, maembe, samaki na maji ya machungwa. Walibeba | 24 |
| pia nguo zao za kuogelea. Wote waliingia kwenye | 32 |
| matatu kuelekea huko. Walipofika baharini waliona watu | 39 |
| wengi sana. Katana alikuwa na hamu sana ya kuogelea. Maskini | 49 |
| Katana, aliingia baharini bila kubadili nguo zake! Dada | 57 |
| zake walimcheka sana. | 60 |

**Kumbuka:** Iwapo mwanafunzi amesoma chini ya nusu ya kifungu, usimwulize maswali ya ufahamu.

Mweleze mwanafunzi, **"Nitakuuliza maswali kuhusu habari ambayo umesoma. Jaribu kujibu maswali kadiri uwezavyo".**

| *Maswali* | *Majibu* |
|---|---|
| 1. Katana na dada zake walienda wapi | Baharini kuogelea |
| 2. Taja majina ya dada zake Katana? | Kadzo na Fatuma |
| 3. Je walibeba sambusa? | La, walibeba mahamri, maembe, samaki na maji ya machungwa. |
| 4. Waliona nini baharini? | Watu wengi sana. |
| 5. Kwanini dada zake Katana walimcheka? | Kwa sababu aliingia baharini bila kubadili nguo zake |

**Student Sheets for Kiswahili**: These were handed out to students during the assessments. The font used for the handouts was Arial 20.

| v | l | h | g | s | y | z | w | l | n |
|---|---|---|---|---|---|---|---|---|---|
| l | k | t | d | k | t | g | dh | z | w |
| h | w | z | m | u | r | j | g | w | u |
| gh | r | b | h | i | f | j | z | s | r |
| s | n | ch | b | p | y | f | ch | a | e |
| y | sh r | p | m | v | o | t | ny | p | |
| z | a | e | m | f | f | h | u | a | t |
| w | g | h | b | sh | l | g | mw | i | i |

| l | l | o | o | ng' | n | e | y | p | ch |
|---|---|---|---|-----|---|---|---|---|----|
| n | k | ch | d | dh | y | b | j | r | v |
| v | mw | w | h | v | l | h | gh | s | y |

| | | | | |
|---|---|---|---|---|
| *ana* | *baba* | *kuku* | *taka* | *paka* |
| *jino* | *mbuzi* | *kiatu* | *lala* | *moto* |
| *maji* | *chatu* | *gari* | *jicho* | *povu* |
| *kula* | *kiti* | *vuna* | *uji* | *panya* |
| *ama* | *zaa* | *ua* | *nyuki* | *mpira* |
| *meza* | *sakafu* | *hisi* | *kikombe* | *meno* |
| *kiko* | *saa* | *ghala* | *nyumba* | *kucha* |
| *ng'ombe* | *mlango* | *samaki* | *shati* | *bibi* |
| *riba* | *kalamu* | *chaki* | *shule* | *chaki* |
| *dada* | *kaka* | *mende* | *nyasi* | *nywele* |

Jumamosi iliyopita Katana na dada zake, Kadzo na Fatuma, walienda kuogelea baharini. Kabla ya kuondoka walibeba mahamri, maembe, samaki na maji ya machungwa.

Walibeba pia nguo zao za kuogelea. Wote waliingia kwenye matatu kuelekea huko. Walipofika baharini waliona watu wengi sana. Katana alikuwa na hamu sana ya kuogelea.

Maskini Katana, aliingia baharini bila kubadili nguo zake! Dada zake walimcheka sana.

# Appendix C
## Interview Protocols

**Session 1**

1. Opening: As an introduction, let us go around the group and each person can give her first name and tell us how many children she has and their ages. *Vivi funahenza kila mmwenga afambire dzinare na ni ahoho angahi anao, aa kiche na aa kilume.*
2. Introductory: When you hear the word "health," but what does this term mean to you? *Mkisikira nene afya, munaona maanaye ni noni.*

   a. Probe: How do you define health? *Maana ya afya ni noni*
   b. Probe: Physical health? Socioemotional health? Spiritual health? *Uzima wa mwiri? Hali ya kukala na tsepo/ furaha/hali ya kuthangamka? uzima wa kiroho?*
   c. Probe: How is your health as it relates to other women in the community? *Vidze yo afya ya kwako inhalanadze na afya ya anaaache angine ho laloni*
   d. Probe: How is your child's health compared to other children in the community? *Ukilinganisha afya ya mwanao na ya anzie ho laloni unayonadze?*
   e. Probe: Do you see your health as a mother linked closely with your children's health? *Unaona yo afyayo dza here mimutu ina uhusiano wa hehi na anao? Kihizho*

3. Transition: I would now like to talk about health issues that arise in your community. What do you think are the major health issues you face in your community?

   *Vikara nikahenza husumurire kuhusu mautu ga afya ho henu laloni/mudzini. Munafikiri ni matatizo gani mabomu ga kiafya mugapatago hano laloni?*

   What do you think causes ill health? *Mnafikiri ni noni kisababishacho ukongo?*

   a. Probe: Undernutrition? *Kukosa chakurya muhimu?*
   b. Probe: Malaria? *Malaria?*
   c. Probe: Diarrhea? *Kumwaga?*

    d.  Probe: A combination of diseases? *Mutsanganyiko wa makongo?*

    e.  Probe: Water sources? *Vituo zha madzi?*

    f.  Probe: Sanitation? *Usafi?*

    g.  Probe: unsanitary water sources—-diarrhea, parasites? *Madzi machafu——kumwaga,,adudu?*

    h.  Probe: mosquitos—malaria? *Usunye——malaria?*

    i.  Probe: snails—schistosomaisis? *Vivonyongwe——kipicho*

    j.  Also: causes of convulsions, "devil's sickness," ringworms, TB, cholera, etc.

4.  How do mothers in your community handle these health issues? *Vidze ani mama ko laloni managashuhulikiradze gano matatizo ga afya.*

    a.  Probe: Do mothers deal with them in the home? *Vidze managashuhulikira midzini?*

    b.  Probe: How? *kihizho?*

    c.  Probe: Do mothers seek help outside the home? *VidzeJe, ni kupata usaidizi nze ya midzi?*

    d.  Probe: Where? *Hiko?*

    e.  Probe: What are the health issues that especially affect girls? *Vidze kuna thabu za kiafya zibujazo asichana?*

    f.  Probe: What about adults, what are health issues that especially affect adults? *Je,na atu azima, vidze kuna matatizo ga kiafya gaabujago atu azima?*

    g.  Probe: Do these illnesses affect adults who would normally provide care for children in the home? *Vidze gano makongo ganabuja hatha atu azima maararisao ano ahoho nyumbani?*

5.  I would like to talk about how you perceive your role in keeping your child healthy and what you do when your child becomes ill. How do you perceive your role in keeping your child healthy? *Vikara nahenza fusumurire jinsi uhalirazho jukumuro ra kuhakikisha mwanao ana afya mbidzo na uhendazho akikala mkongo. Unahaliradze jukuro ra kuhakikisha mwanao ana afya mbidzo.*

    a)  Probe: teaching good health practices? handwashing? *Vidze ni kuafundisha aanao thabia mbidzo za kiafya?Here kouga mikono?*

    b)  Probe: providing food and nutrition? *Ni kumpa chakurya cha nguvu?*

    c)  Probe: access to preventative health care? What type? Clinic? Local healer? *Vidze ni kumpa chinga ya makongo? Ya aina yani? Kliniki/Spitali? Mganga?*

Key Question: What do you do when your child becomes ill? *Ni kukala unahendadze mwanao akikala mkongo?*

a)  Probe—Fever, convulsions, Diarrhea, TB, signs of malnutrition? *Here akikala na mwiri moho,akifitika,akimwaga,akikala na TB,upungufu wa afya?*

b) Probe: Access to curative health care? What type? Clinic? Local healer? *Vidze ni kukala munapata matibabu aina yani? Ga spitali au kwa muganga?*

c) Probe: Do you mix and use ORT? *Ni kuhumira irya dawa ya kapakiti ya kutsanganya na madzi?*

I would now like us to talk about the health of your 2nd or 3rd grade child at _____ school. Could you tell me about your experiences in raising this child? *Vikara nahenza husumurire kuhusu afya ya athithe enu Mario kilasi cha hiri na cha hahu. Vidze ni mautu gani murigo gakirira muri hokala munaarera ano ahoho?*

a. Probe: Think about that child's health during the years before he or she went to school and tell me about that. *Ririkana/fikiria afya ya mwanao arihokala kadzangwe kwend asikuli kasha unambire irizhokala ama kuihusu.*

b. Probe: Think about that child's health during the years he or she has been attending school and tell me about that. *Na hangu aanze sikuli,yo afiaye idze?*

c. Probe: What helps children stay healthy? *Ni kitu chani kidimacho kusaidia ahoho makale na afya midzo?*

d. Probe: What contributes to poor health? *Ni kitu chain kisababishacho ahoho masikale na afya midzo ama kuzoroteka kiafya?*

## Session 2

1. Opening: We probably remember one another, but to refresh our memories, let us go around the room and say our names again and tell how many children we have. *Bila shaka huchere kukumbukirana ela hamwenga na vizho kila mutu naanene dzinare.*

2. In our first session, we discussed your views on health and we had a very nice discussion about all of your opinions. In this second session, we would like to explore more of your views on schooling and education and how health might play a role in your child's learning.

3. Key Question: When your child was sick, could he or she go to school? *Vidze,ho mwanao arihokala mokongo,kishe wadima kwenda sikuli?*

a. Probe: Does getting sick affect your child's attendance at school? *Vidze akikala mukongo,ni kumtatiza kwenda sikuli?*

b. Probe: Is your child often staying home due to illness? *Ye mwanao ni kukala mudzini mara kwa mara kwa sababu ya ukongo ama unyonge?*

c. Probe: Is your child able to concentrate on his or her studies at school? *Vidze,mwanao anadima kubwaga akili na akasikiza mwalimu na akaelewa?*

d. Probe: Is your child able to concentrate on his or her homework? *Vidze mwanao akigerwa kazi ya mudzini ni mwalimu,ni kukala anabwaga akili?*

e. Probe: Describe how, where, and with whom your child does his or her homework. *Hedu nambire, mwanao akigwerwa kazi ya mudzini ni mwalimu, ni kukala anaihenderahi,kihizho na anaihenda na hani?*

4. Key Question: What can a mother do to help her child learn at school? *Mimutu anadima kuhendadze kumwaviza mwanawe kimashomo?*

5. Key question: How do you perceive your role in your child's schooling? *Vidze unaronadze ro jukumuro kahiza kushoma kwa mwanao?*

a) Probe: What about your role for a girl child in particular? *Na je jukumuro haswa kwa mwanao wa kiche?*

b) Probe: Teaching certain things at home? *Here kumufundisha mautu Fulani ho nyumbani?*

c) Probe: Are there special issues about what you teach for girls? *Kun mambo maalumu kuhusiana nago umfundishazho mwanao?*

d) Probe: Getting your child to school each day? *Here kumfisha mwanao sikuli?*

e) Probe: Are there special issues about getting to school for girls? *Je,kuna mambo maalumu gatatizago asichana kufika sikuli?*

f) Probe: Are parents ready to pay tuition fees for girls in the same way they can for boys? *Je azhazi mathayari kuriha pesa za tushoni kwa asichana ao here zho mahendazho kwa avulana?*

g) Probe: Making money to pay for school needs or other resources (books, etc.)? *Kutengeza pesa za kurihira mahitaji ga sikuli na mautu mangine(here vithabu,etc)?*

h) Probe: Are there special issues about making money to pay for school needs for girls? *Je, kuna mautu maalumu kuhusu kutengeza pesa za kurihira mahitaji ga sikuli ga asichana?*

6. What do you think schools in the community do well? (Can be primary school/*madrassa*, etc.)

a) Probe: What do you think is good about your school? *Vidze,munafikiri ni noni kidzo kuhusu ino sikuli yenu?*

b) Probe: What do the schools need to do better or differently? *Vidze unafikiri sikuli zinahitaji kutengezani ili zitengeze tototo zaidi ama tofauti kimashomo?*

c) Probe: Is what your child does at school important for his or her well-being and success? *Vidze unaona zho atengezajo mwanao ko sikuli vina umuhimu wowosi kwakwe au andafaulu na aishi tototo?*

7. Do your children learn about these diseases and causes at school? *Vidze anaenu manafundishwa gano makongo na kigasababishago makikala sikuli?*

8. Key Question: In the previous discussion, you mentioned a dispensary. Is it affordable to all? Please list the services you get there. What is the fee you pay to get these services? *Kahiza masumuriro gehu ga dzuzi, mwahadza dispensary.Je kila mmwenga ana wadimi wa kwenda kwa matibabu? Tafadhali fuhadzireni huduma muzipatazo. Kuna mariho gogosi mulazhago ili kupata zino huduma?*

9. What role does the local school play when a child gets sick? *Ino sikuli ni kukala ina jukuma rani mwana akalaho mukongo?*

   a) Probe: Does your child's teacher or head teacher inquire about your child when he or she is absent? Is there follow-up from the school about his or her health? *Vidze ye mwalimu wa mwanao au mwalimu mkuu ni kuuzira kuhusu mwanao akithira sikuli? Ni kukala yo sikuli inathuiriza afya ya mwanao?*

10. Do mothers like you in your community have access to resources needed to help your children thrive? *Vidze animama dzanwi hano laloni nikupata vitu zha kuasaidia anaao kuenderera?*

11. How are leaders in your community working with families to improve health outcomes for children? *Vidze o vilongozi enu holaloni manahala jukumu rani kusaidia famili zenu ili kuboresha hali ya afya ya ahoho sikuli?*

12. And to improve school outcomes for children? *Nakuhusu kuboresha matokeo ga anaenu ga sikuli?*

13. Key Q: What do you know about the reading program at your child's school? *Vidze unamanyani kuhusu urya mpango wa kuhenda ahoho mamanye kushoma ko sikulini kwa mwanao?*

   a) Probe: Have you noticed changes or improvements in your child's reading? *Je, udzaona mabadiliko au maenderero kahiza kushoma kwa mwanao?*

14. Key Q: What do most mothers expect their children to do when they complete primary school? *Ani mama anji ni kukala manatharajia anaao matengezeni makigonya mashomo yao ya premari?*

15. Ending Q: Considering all the issues discussed in our two sessions together, which do you think have the biggest impact on your children's learning at school and on his/her reading skills in particular? *Kuririkana na mambo gosi fudzigosumurira kahiza masumuriro gehu, ni higo ambago munafikiri ganatsanngira habomu kahiza kushoma kwa mwanao?*

## One-on-one Interview Protocol

### A Mother

1. Did you eat breakfast this morning? *Vidze, udzafungula?/Ulikula chakula cha chamshakinywa asubuhi?*

2. How many meals do you usually eat per day? *Unarya mara nyingahi kwa siku?*

3. Do you usually wash your hands before eating a meal? *Vidze,ni kukala unaoga mikono kabla ya kurya chakurya chochosi?*

4. Does your stomach hurt most days, some days, very few days, or never? *Yo ndaniyo ni kuluma mara nyinji, mara kiasi, mara kidogo sana ama kailuma kamare?*

5. Does your head hurt most days, some days, very few days, or never? *Kitswacho ni kuluma mara nyinji, mara kiasi, mara kidogo sana ama kakiluma kamare?*

6. Describe your household: your children, whether they are boys or girls, and their ages, co-wives and their children, your husband. *Fuambire kuhusu nyumbayo, ahohoo ache kwa alume na miaka yao, ache anzio, ana ao, na mulumeo. Una watota wangapi, pamoja na mtoto wako wa darasa la pili au tatu, ambao wanakaa nyumba yako? Tafadhali orodhesha wote kuonyesha wako kikie au kiume, na umri wao.*

7. What languages do you speak in your home? *Vidze munahumira lugha yani kusumurira ko mudzini? Mnasema lugha gani katika nyumba yenu?*

8. What religion does your family practice? *Je dini yenu ni hiyo?*

9. What level of schooling did you complete? *Wagonya /Wafika kilasi cha nyingahi. Ulimaliza darasa ngapi?*

   ___None. *Kushomere kamare/Hamna*

   ___Some primary school. *Kumarigizire premari/Kiasi cha shule ya msingi.*

   ___Completed primary school. *Wamarigiza premari/Malizika shule ya msingi.*

   ___Some secondary school. *Kumarigizire sekondari/Kiasi cha shule ya sekondari.*

   ___Completed secondary school. *Wamarigiza sekondari/Malizika shule ya sekondari.*

10. Do you read? In English? In Swahili? In Giriama? Please describe. *Unamanya kushoma? Kwa kizungu? Kwa Kiswahili? Kwa kigiriama? Tafadhali fuelezere.*

    *Je, unasomea? Kwa kiingereza? Kwa Kiswahili? Kwa kigiriama? Eleza.*

11. You mentioned stress, what do you do to relieve stress? *Mwahadza kukala ni kubujwa ni maazo,vidze ni kukala munahendadze kuhuriza akili?*

12. What activities do you enjoy doing? *Ni shuhuli zani ambazo zinakufahiza?*

13. Please mark the responses that most closely describe what you have in your home:

*Tafadhali ika alama kwenye majibu ambago ganaeleza vitu ambazho unazho nyumbani:*

____Number of household members per room. *Idhadi ya atu kwenye kila chumba/Namba ya watu ambao wanakaa nyumbani kwa kila chumba.*

____Has pit latrine. *Ina choo cha shimo/Ana choo cha shimo.*

____Has own flush toilet. *Ina choo cha kupiga madzi cha ndani/Ana choo cha shimo.*

____Uses water from a tanker truck. *Inahumira madzi kula kwa gari ra madzi/Anatumia maji kutoka lori.*

____Piped drinking water in residence. *Ina madzi kula miferejini ndani ya nyumba/Maji yamo nyumbani kutoka bomba.*

____Inside well drinking water. *Ina madzi madzo ga kunwa /Maji yamo nyumbani kutoka kisimo.*

____Has radio. *Ina redio/Ana redio*

____Has television. *Ina t.v/Ana televisheni.*

____Has telephone. *Ina simu/Ana simu.*

____Has car. *Muna gari/Ana gari.*

____Has motorcycle. *Muna pikipiki/Ana pikipiki.*

____Has bicycle. *Muna baisikeli/Ana bisekeli.*

____Has refrigerator/*Ana friji. Ina firiji*

____Has electricity/*Ana umeme. Ina stima.*

____Cement floor. *Ina sakafu ya simiti/Sakafu ya simenti.*

____Tile or brick floor. *Ni ya sakafu ya matofali/Sakafu ya matofali au vigae.*

____Adobe floor. *Ni ya mitsanga/Sakafu ya udongo.*

____Parquet or polished wood floor. *Ni ya sakafu ya mbao/Sakafu ya ubao.*

____Other type of flooring. *Ngira yoyosi nyingine ya kuika sakafu/ Sakafu ya aina nyingine.*

14. At what age did you marry?

    *Wahalwa na miaka mingahi?/Uliolewa na miaka mingapi?*

## B  Class 2 or 3 Child

1. Does your Class 2 or 3 child wash his or her hands at key times: *Vidze,ye mwanao wa kilasi cha hiri ama cha hahu ni kuoga mikono wakati muhimu:*

   1. a.  Before eating? *Kabla ya kurya?*
   1. b.  After using the latrine? *Akimbola chooni?*

2. Do you have soap available in the home? *Vidze, muna sabuni ho mudzini?*
3. Is soap affordable for you? *Yo sabuni inagulika?*

4.  What types of activities does your Class 2 or 3 child like to participate in? At school? At home? *Ni mautu gani mwanao wa kilasi cha hiri ama cha hahu anahenza kudzishuhulisha nago akilkala/ Sikuli? Mudzini?*

5.  Has your Class 2 or 3 child been sick during the past year? If yes, please list sicknesses.

    *Je, mwanao wa kilasi cha hiri ama cha hahu wakala mukongo mwaka udziokira? Tafadhali nihadzira makongo gani.*

6.  Please name illnesses your Class 2 or 3 child had from birth to age 5.

    *Tafadhali nambira nimakongo gani garigombuja mwanao wa kilasi cha hiri ama cha hahu hangu kuzhalwa hadi miaka mitsano.*

7.  Does your Class 2 or 3 child miss more than 2 days of school per month?

    *Vidze ye mwanao wa kilasi cha hiri ama cha hahu ni kukala anamaanisha sikuli kutsakosa zaidi ya siku mbiri kwa mwezi?*

8.  Please list the main reasons your child misses school.

    *Tafadhali nihadzire sababu bomu za kumuhenda mwanao akose sikuli.*

9.  Does your Class 2 or 3 child care for adults or siblings in your home?

    *Vidze ye mwanao wa kilasi cha hiri ama cha hahu ni kukala mkazi wa anzie ho nyumbani?*

10. Does sickness of any person in your home affect your child's attendance at school?

    *Je ukongo wa mutu yeyosi mo nyumbani ni kumtatiza mwanao wa kilasi cha hiri au cha hahu ni kwenda sikuli?*

11. Do you feel that your Class 2 or Class 3 child has learned to read at school?

    *Je, unaona mwanao wa kilasi cha hiri ama cha hahu wadzifundisha kushoma ko sikuli?*

## C  Health Services

1.  You mentioned a dispensary; how far from your home is the dispensary you prefer?

    *Mwahadza kituo cha afya(dispensari),kula henu tha ho dipensari,hana ure wani?*

2.   You mentioned a traditional healer in our discussion; how far from your home is the traditional healer that you prefer?

*Mwahadza muganga kahiza masumuriro gehu,hana ure wani kula ho hako tha ko kwa muganga ambaye unenda kwakwe mara kwa mara?*

### D  School

1.   Does your child's school have a school feeding program?

*Vidze yo sikuli endayo mwanao ina mpango wa kuapa chakurya ahoho?*

2.   If yes, has your child recently benefited from this program?

*Kala ee,ye mwanao adzafaidikadze kula kwa uno mpango?*

3.   Does your child's school have a canteen where students can purchase food?

*Yo sikuli endayo mwanao, hana kidhuka ambacho ahoho manadima kugula chakurya?*

4.   Does your child purchase food from the canteen daily? Several times a week? Infrequently? Never?

*Je,ye mwanao ni kugula chakurya kul aho kidhukani kila siku? Mara nyinji kwa wiki? Si sana sana? Kagula kamare?*

5.   Are you required to pay school fees of any type, such as for paper, books, pens, uniform, or anything else? If so, how much money are you required to pay?

# Appendix D

Demographic Snapshot of Focus
Group Participants

*Appendix D*

| Participant | School Site | Meals per day | Language at home | Religion | Level of schooling completed | Can you read? | Toilet? | Radio? | Cell phone? |
|---|---|---|---|---|---|---|---|---|---|
| 1. Afya | Noanini | | Kiswahili | Islam | | | | | |
| 2. Aminata | Noanini | 2 | Kiswahili | Islam | None | Yes, Kiswahili | Pit latrine | No | No |
| 3. Rahima | Noanini | 3 | Kiswahili | Islam | Some primary | Yes, Kiswahili | Pit latrine | No | No |
| 4. Amara | Noanini | 2 | Kiswahili | Islam | Completed primary | Yes, English | Pit latrine | No | No |
| 5. Nasirah | Noanini | | Kiswahili | Islam | | | | | |
| 6. Shurafa | Noanini | 2 | Kiswahili | Islam | Some primary | Yes, Kiswahili | Pit latrine | No | Yes |
| 7. Kabibi | Noanini | 1 | Kigiriama | Christianity-Pentecostal Evangelical Fellowship in Africa (PEFA) | Some primary | No | None[1] | No | No |
| 8. Zawadi | Noanini | 1 | Kigiriama | Christianity-Catholic | None | No | None | No | No |
| 9. Dhahabu | Noanini | | Kigiriama | | | | | | |
| 10. Shuruq | Noanini | 2 | Kiswahili | Islam | None | No | Pit latrine | Yes | No |
| 11. Zena | Noanini | 2 | Kiswahili | Islam | Some primary | Yes, English & Kiswahili | Pit latrine | Yes | No |
| 12. Zorah | Noanini | 3 | Kiswahili | Islam | Some primary | Yes, Kiswahili | Pit latrine | No | No |
| 13. Sara | Shadakunu | 2 | Kigiriama | Christianity-Light of God | Completed secondary | Yes, English & Kiswahili | Pit latrine | Yes | Yes |
| 14. Mali | Shadakunu | 2 | Kigiriama | None | None | No | None | No | No |
| 15. Mary | Shadakunu | 3 | Kigiriama | Christianity-Light of God | None | No | None | No | No |
| 16. Kadzo | Shadakunu | 2 | Kigiriama | Christianity-Anglican Church of Kenya (ACK) | Completed primary | Yes, English, Kiswahili, Kigiriama | None | No | No |
| 17. Rehema | Shadakunu | 1 | Kigiriama | Christianity-PEFA | Some primary | Yes, English, Kiswahili, Kigiriama | None | No | No |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 18. Pendo | Shadakunu | 1 | Kigiriama | None | None | No | None | No | No |
| 19. Furaha | Shadakunu | 2 | Kigiriama | Christianity-PEFA | None | No | None | No | No |
| 20. Jumwa | Shadakunu | 1 | Kigiriama | Christianity-Catholic | None | No | None | Yes | No |
| 21. Maria | Shadakunu | 1 | Kigiriama | Christianity-Catholic | Some primary | Yes, Kigiriama | None | Yes | No |
| 22. Zelda | Shadakunu | 1 | Kigiriama | Christianity-PEFA | None | No | None | No | No |
| 23. Karembo | Shadakunu | 1 | Kigiriama | Christianity-PEFA | Some primary | Yes, English | None | Yes | Yes |
| 24. Kadii | Shadakunu | 1 | Kigiriama | Christianity-PEFA | Some primary | No | None | No | No |
| 25. Sidi | Vikidi | 1 | Kigiriama | Christianity-unspecified | Some primary | No | None | Yes | No |
| 26. Nyevu | Vikidi | 1 | Kigiriama | Christianity-Baptist | Some primary | Yes, Kiswahili & Kigiriama | None | No | No |
| 27. Rashida | Vikidi | 3 | Kiswahili | Islam | Some primary | Yes, English, Kiswahili, & Kigiriama | Pit latrine | No | Yes |
| 28. Kache | Vikidi | 1 | Kigiriama | Christianity-Catholic | Some primary | No | None | No | No |
| 29. Dama | Vikidi | 2 | Kigiriama | Christianity-Pentecostal Angono | Some primary | Yes, Kiswahili & Kigiriama | None | No | no |
| 30. Rida | Vikidi | 3 | Kiswahili & Pokomo | Islam | Completed primary | Yes, English & Kiswahili | Flush toilet | Yes | Yes |
| 31. Jelko | Vikidi | 2 | Kigiriama | Christianity-Catholic | None | No | None | No | No |
| 32. Mapenzi | Vikidi | 2 | Chonyi | Christianity-Pentecostal Angono | None | No | None | No | No |
| 33. Neema | Vikidi | 1 | Kigiriama | Christianity-unspecified | Some primary | No | None | No | No |
| 34. Kalozi | Vikidi | 2 | Kigiriama | None | None | No | None | Yes | No |
| 35. Kafedha | Vikidi | 1 | Kigiriama | None | None | No | None | No | No |
| 36. Bendera | Vikidi | 1 | Kigiriama | Christianity-PEFA | None | No | None | No | No |
| 37. Heela | Vikidi | | Kiswahili | Islam | None | No | None | No | No |

1 "None" indicates that the respondent cites a "bush toilet", which means going outside for toilet needs.

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