Assessing the Impact of Nutritional Education on Gender Roles and Child Care in Northern Malawi

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Graduate Program in Geography
A thesis submitted in partial fulfillment of the requirements for the degree in Master of Science
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ASSESSING THE IMPACT OF NUTRITIONAL EDUCATION ON GENDER ROLES AND CHILD CARE IN NORTHERN MALAWI

(Thesis format: Monograph)

By

Emmanuel Chilanga

Graduate Program in Geography

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science

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Abstract
Malnutrition among children below the age of five remains a major public health concern in Malawi. To address the problem of childhood malnutrition, several programs have been initiated to promote optimal early feeding, control vitamin A deficiency and minimize the prevalence of childhood anemia. Although some progress has been made, close to 49 percent of children remain malnourished. In Malawi, the majority of child care and feeding is done by women who have high workloads and little control over household economic resources. Scholars are striving to find strategies that can motivate and empower fathers to be involved in housework and childcare activities, and potentially mitigate the underlying causes of child malnutrition. This study draws on a feminist geography, gender theories, transformational educational approaches and the concept of care to assess whether participatory community-based nutrition education can promote a more equal household gender division of labour and sharing of childcare practices in northern Malawi. In-depth interviews and participant observation data were collected from 30 couples before and after a participatory nutrition education program over a 4 month period in 2012. The results show that there are highly unequal gender roles in household work, which are justified by various socio-cultural explanations. Nonetheless, the participatory nutrition educational approach utilized shows potential for involving husbands in some childcare and household domestic work.

Keywords: Participatory Education, Gender Roles, Child Nutrition, Complementary Feeding, Malawi
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CHAPTER ONE

INTRODUCTION AND CHAPTER OUTLINE

1.1 Research Background

Child malnutrition is a major public health challenge in Sub-Saharan Africa (NSO, 2011; Wilford, Golden, and Walker, 2012; Ruel, 2003). It is estimated that nearly 4 million deaths in the region are attributed to undernourishment (Adjuik et al., 2006). Although the backbone of Malawi’s economy is agriculture, the majority of Malawians are food insecure (Harrigan, 2008). Undernourishment has negatively affected children under five in Malawi. Current estimates are that 41% of Malawian children are stunted, 17% are underweight and 5% are wasted (NSO, 2011; Meerman, 2008).

One of the critical stages that nutritionists have identified for improving child nutritional status is the complementary feeding stage, between 6 months and 2 years of age, when children are being introduced to solid foods (Horton, 2008). Low dietary diversity, inadequate number of feedings in a day, poor sanitation and low levels of exclusive breastfeeding during the first 6 months are some of the reasons for high rates of child malnutrition during this period of a child’s life (Bhutta, Ahmed, Black and Cousens, 2008). According to Engle (1992), care is a multidimensional concept which includes practices such as feeding, health care, hygiene, and psycho-social support that are critical for the positive nutritional growth of young children. Although inadequate dietary intake and morbidity are immediate causes of malnutrition, studies have shown that household gender inequality relates to high rates of child malnutrition (Osmani & Sen, 2003; Kennedy and Peters, 1992). Women’s care practices of young children have been found to contribute significantly to child nutritional outcomes (Engle, 1992; Ruel, 2000). Women are also often responsible for the vast majority of child care and feeding, while having limited control over household food resources and competing work demands. Therefore, to effectively address child malnutrition, there is a need to address issues of gender equity and care practices during the complementary feeding period (Engle, 1999).

Most child nutrition intervention programs focus their educational efforts on mothers (Rasanen, Niinikoski, Helenius and Talvia, 2003). Since mothers already have multiple roles in the households, these intervention programs can negatively affect their workload,
without addressing gender inequalities that affect child care, such as the division of labour and decision-making (Osmani & Sen, 2003). Focusing on mothers also ignores the role in decision-making that men and older women (e.g. grandmothers) often play in early child care and feeding (Aubel, Toure and Diagne, 2004; Bezner-Kerr, Dakishoni, Shumba and Msachi, 2008). Research suggests that community-based participatory programs are the most effective way to address gender inequality through promotion of men’s involvement in child care, but there has been limited research on the impact of integrating men or other key decision-makers within the extended family, such as grandmothers, into nutrition education programs (Tontisirin & Gillespie, 1999; Aubel et al., 2004; Shi & Zhang, 2011) or the effects of different educational approaches to nutrition.

Currently, some nutrition scholars advocate for the transformational education approach which takes into consideration sociocultural factors that affect decision making as related to childcare and feeding practices. This educational approach is in contrast with an “information-transmission” approach which does not take into consideration local knowledge but considers recipients as rational beings who put into practice the received knowledge (Aubel et al., 2004; Shi & Zhang, 2011). An evaluation of twenty one community-based nutrition programs that were based on the transformational approach in southern Asia showed success in building human capacity in child care practices which contributes to child nutrition (Allen, et al., 2001). This research study evaluates if participatory community-based nutrition education has positive effects on child care practices and gender relations in northern Malawi.

The Soils, Food and Healthy Communities (SFHC) project has been working with more than two thousand poor farmers in northern Malawi since 2000. The project is based on a community participatory approach to improve child nutrition through the use of crop diversification, farmer experimentation with organic methods, and education (Bezner-Kerr, Snapp, Shumba and Msachi, 2007). The project’s previous studies found evidence that participating households have improved their food security and nutrition (Satzinger, Bezner Kerr and Shumba, 2009; Bezner Kerr, Berti and Shumba, 2010). In order to maximize food utilization, which can promote child nutrition, both men and women attend participatory nutrition discussion groups and “recipe education days” (Bezner-Kerr et al., 2007). At present, there are few studies that focus on the impact of participatory
nutrition education on intra-household gender roles which affect childcare practices. Therefore, the need to understand child care within a nutrition education program at Ekwendeni can provide scope for understanding the impact of a participatory nutrition education approach on household gender roles and complementary feeding practices, which in turn has implications for improving child nutrition. Furthermore, this study addresses the gap in the literature on nutrition education approaches by examining the effect of participatory nutrition education on gender roles and child feeding practices in a context of high child malnutrition.

1.2 Research hypothesis and Objectives

This study seeks to find out whether a community-based participatory nutrition education program can affect 1) knowledge of complementary feeding and child care, 2) complementary feeding practices, and 3) the household division of labour and decision making related to child care practices. To address the stated general objectives, the following four specific objectives will be addressed:

1) To explore the effect of participatory community-based nutritional education on gender roles with respect to child care and complementary feeding practices.

2) To explore the effect of nutrition education on gender roles with respect to the household food preparation of complementary foods.

3) To ascertain the effects of nutrition education on child caregivers’ knowledge with regard to food recipes for complementary feeding.

4) To examine the effect of nutrition education on household dietary diversity.

1.3 Chapter Outline

This thesis consists of five chapters. Chapter two is in three sections: section one reviews related literature on the role of childcare in addressing child malnutrition basing on the UNICEF care model. It also discusses the association between household gender inequalities and child wellbeing. Furthermore, the section discusses the effectiveness of community-based participatory nutrition education in promoting young children’s dietary diversity and complementary feeding. The section concludes with a discussion of the philosophical basis in which the research is grounded – that is, feminist geography- and
my positionality as a male researcher which may have shaped the interpretation and focus of the research.

**Chapter three** begins with the description of the research area in northern Malawi. It then proceeds to discuss how exploratory qualitative research based on a quasi-experimental pre-post intervention research design was used to collect data. The section also outlines data analysis techniques that were used. Furthermore, the chapter explains the ethical considerations that were followed before and during the entire research period. Finally, the chapter concludes with a discussion of the strengths and limitations of the quasi-experimental and qualitative study design used.

**Chapter four** presents the results of this study. The presentation of the results is based on emerging themes developed from the major objectives of the study. The chapter is organized into three main sections. The first describes household gender roles and childcare practices that were described *before* recipe day nutrition education. The second section describes recipe day education sessions and the last section discusses gender roles and childcare practices that were described by couples *after* the recipe day education.

**Chapter five** of this study situates the empirical findings within the current research by comparing household gender roles and childcare practices before and after recipe day nutrition education. It then tests the applicability of global household gender theories in a rural context. The chapter also compares children’s complementary foods and food diversity before and after recipe days and proposing its implications. Furthermore, the chapter discusses the impact of community-based recipe day nutrition education on household gender roles and childcare practices. Finally, the chapter highlights the contribution of the study to policy and literature. It also proposes potential areas for further investigation.
CHAPTER TWO

LITERATURE REVIEW

2.1 The role of care in nutrition

The contemporary understanding of the role of care in nutrition has influenced researchers to reassess the causes of child malnutrition (Engle, 1992; Deutsch, Lussier and Servis, 1993; Arimond & Ruel, 2002). In the past, and among many agricultural scientists, it was assumed that an increase in household food security would lead to improved child nutrition. In addition, reduction of child diseases was thought to be a major means by which child malnutrition could be reduced. It was observed that although many households were food secure and able to access primary health care, children from such families still experiencing some form of malnutrition (Engle, Bently and Pelto, 2000). Nutritionists have recognized that some social factors are linked to food production and health outcomes. According to the studies conducted by UNICEF, it was found that, in addition to health care and food security, care for children was vital for child survival, growth and development (Christiaensen & Alderman, 2004). The term ‘care’ as used in child nutrition refers to the behaviors and practices of caregivers who provide the food, health care, stimulation and emotional support necessary for child’s healthy growth and development (Fleming, 2005; Engle, 1992). Resources for care are found in the households, which include food, income, time and attitudes. Figure 1 summarizes the UNICEF care framework that is guiding this research, namely that by addressing household gender inequality through participatory community-based nutrition education, healthy childcare practices can be promoted. In this regard, it is important that community nutritional workers should collaborate with caregivers to create knowledge and skills that can improve child nutritional status.
2.2. Household gender roles

In many societies, it is assumed that mothers are responsible for caring for young children. It is known, however, that often older siblings and older relatives assist the mother in child care (Jacobs & Michelle, 2006). Studies conducted in developing countries show that fathers spend less time in child care activities such as basic care, holding, reading and verbal interaction than mothers in the first two years of child life (Engle & Bereaux, 1998; Bhandari, Bahl, and Black, 2004; Blair & Johnson, 1992). Despite these findings, studies in developed countries reported that fathers’ child care roles are positively associated with child’s intellectual, social and emotional development (Penny, Robert, Narro and Caulfield, 2005; Lamb, 2004). Since fathers can contribute positively to child health, it is important to find ways in which they can value their roles in child care activities. In northern Malawi, the SFHC project has focused on the theme of ‘family cooperation’ including men’s role in early child care to promote child nutrition (Msachi, Dakishoni, Kerr and Patel, 2009; Satzinger et al., 2009). This project thus provided an opportunity to examine whether men are mobilized and sensitized to recognize that they can maximize child nutrition by complementing food and health services with good child care practices and more equitable housework activities.

2.3. Nutrition education

Studies have shown that community-based nutrition education approaches have positive impacts on children’s nutritional status. For example, in a randomized controlled
trial at Haryana in India, the study found that complementary feeding nutrition education was successful in achieving better child feeding practices and energy intake (Bentley, Wasser & Creed-Kanashiro, 2011). In addition, community-based nutrition education trials in China and India have found that nutritional counseling in complementary feeding correlated with heavier and taller infants in the intervention group than in the control group (Imdad, Yakoob & Bhutta, 2011; Guldan, Fan, Ma, Ni, Xiang, & Tang, 2000). These studies suggest that nutrition education can assist to improve childcare practices, which in turn can translate into healthy child nutritional status. In this study, the potential effect of a participatory-based community nutrition education to address household gender inequality and better childcare practices was examined in Ekwendeni area, northern Malawi.

2.3.1 Dietary diversity

The participatory community-based nutrition education on which this research focused on promotes household dietary diversity and gender equality as ways of improving child nutrition. The nutrition education program is run by Ekwendeni Hospital through the SFHC project. Couples and community members discuss and demonstrate food recipes, complementary foods and any related child care practices. The choice of food diversity is guided by many studies that link household dietary diversity to improved child nutrient intake (Rah, Akhter, Semba & Bloem, 2010; Shi& Zhang 2011; Arimond & Ruel, 2004; Hoddinott & Yohannes 2002). For example, studies in Bangladesh showed that infants who consumed more rice, vegetables, pulses, fruits, oils and livestock products in a week achieved higher nutritional status than children who rely mostly on rice and vegetables (Hossain & Naher, 2005). Therefore, the participatory nutrition education program under study emphasizes the importance of giving children different varieties of foods that are locally available. The discussions link with the crop diversification program that the participants are attending and practicing in their fields.

2.3.2. Complementary feeding

Nutritionists recommend that infants from the age of six months up to two years should continue to receive breast milk and should also be fed with safe and adequate local foods throughout the day (So, Nelson, Li, & Lau, 2008). In studies conducted in Malawi, Colombia and Guatemala it was found that complementary foods given to infants were
inadequate in energy density, protein and micronutrients which are needed for child health (Hotz & Gibson, 2007; Black, Bhutta, Allen & Caufield, 2008). To address these problems, trials of new feeding practices, foods and recipes were carried out in Malawi and Colombia and the results showed that there was nutritional improvement in the foods given to children as compared to usual foods. The new foods were also acceptable to both mothers and children (Hotz & Gibson, 2007; Begum, Taylor & Nahar, 2007). Despite these positive findings, research conducted in Senegal, Niger and Swaziland shows that food affordability, time for food preparation, child food preference and child morbidity determine the adoption of nutritious complementary foods (Piwoz, 1994). Issues related to time management are closely linked to gender relations and the household division of labour in northern Malawi, where women contribute significantly to agricultural labour in rural households alongside the majority of other household tasks such as laundry, child care and food preparations (Bezner-Kerr, 2005). The community nutrition education sessions incorporate discussion topics related to time management, food preferences and caring for children when they are ill, as well as the household division of labour and decision-making about child care.

2.4 Studies in household labour

Household labour became an area of scholarly interest in the late 1990s when researchers were baffled to find out that despite women’s increased participation in the paid workforce in developed countries, they still perform the majority of domestic work compared to their male partners (Coltrane, 2010; Lachance-Grzela & Bouchard, 2010). Since then, scholars from different academic fields have attempted to understand the causes and impact of such an unequal gendered division of domestic labour on the wellbeing of family members and society as a whole. According to Coltrane (2010), it is important to conduct research in the area of household labour because human survival and wellbeing depends on domestic work such as clothing, feeding and caring for both children and adults. Although domestic work is vital for the sustenance of life, it is considered as a trivial work in the imagination of many people. The reasons for belittling domestic work are that it is regarded as “feminine work” and also it is not attached to financial gains (Cook & Dong, 2011). The negative impact of burdening women in domestic work include an increase in women’s depression and marital conflicts which
negatively affect the overall health status of family members, especially children (Coltrane, 2010).

A number of studies have examined the relationship between household gender inequality and poor nutritional status in sub-Saharan Africa (Moore & Vaughan, 1987). For example, Richards in 1920 identified that migration of Bemba men from Zambia was associated with high workloads amongst women and poor household food security which compromised nutritional status of their children (see Berry, 1993). In addition, studies by Blackden and Woodon (2006) and Francis (1998) found that the triple roles of women reduce the amount of food consumed by family members. Ever since, there have been well documented records that household gender inequality is associated with poor nutrition status in Sub-Saharan Africa. This study adds on this literature by examining ways of addressing household gender inequality which may have positive impact on child nutrition.

There are two main theoretical perspectives that dominate household labour literature trying to elucidate reasons for the gendered division of domestic work (Lachance-Grzela & Bouchard, 2010; Booth & Van Ours, 2009). The first is a micro-level perspective which includes relative resource theory, demand response theory and gender ideology theory. The assumption of relative resource theory is that the spouse with more socio-economic resources is anticipated to do less housework than the one with fewer resources (Knudsen & Waerness, 2008). This theory is grounded in a bargaining model of the household, which indicates that social and economic resources offer the breadwinner in the family more power to bargain his or her way out of carrying out “boring” domestic work. The demand-response theory, in contrast, proposes that fathers can do more childcare and house work activities if there is a need to do so and they have time to do the work (Davis et al, Green, & Marks, 2007). The last set of micro-level theories are the gender ideology and gender construction theories, both of which assume that individuals are socialized in such a way that they perceive a particular set of roles, rights and responsibilities of women and men in society (Kroska & Elman, 2009). In this case, the division of domestic work depends on the gender role orientation of the married couples. This means that if the couples have a stronger endorsement of traditional gender
roles, they usually demonstrate unequal involvement in household tasks (Fulcher & Coyle, 2011; Davis et al., 2007). The second prominent household theory is a macro-level perspective which takes into account structural, historical and socio-cultural forces that shape individuals’ behaviour towards engagement in domestic work. In this case, scholars posit that communal and national context such as politics, economics and cultural factors shape the division of housework amongst cohabiting couples (Agarwal, 1997; Bezner Kerr, 2005). The first set of theories was largely developed from family studies that were conducted in Western countries which may need to be tested if they apply in Sub-Saharan region especially in the agrarian rural areas. This study applies both sets of household theories to find out which ones explain reasons for the gendered division of domestic work in northern Malawi. An understanding of household labour theories and their contextual application will help policy makers come up with programs that can address household gender inequality which can potentially improve the welfare of family members.

2.5 Theoretical Underpinnings of the Study: Feminist Geography

I have taken a feminist geographical approach to study ways in which couples participate in childcare and housework in northern Malawi. Feminist geography as a theoretical approach employs theories, methods and critiques of feminism in the study of human beings in relation to gender, space and culture (Fox & Murray, 2000; Martin, 2004). As an ideology, feminism recognizes that inequity between sexes exists, and that there is a need to eradicate it. In this case, feminist geographers argue that women globally are oppressed through patriarchal systems and therefore called for researchers to examine factors that perpetuate the oppression of women and find solutions also to address women’s subjugation (Mohanty, 1998; Freeman, 1990; McDowell, 1992). In this case, I am using these feminist lenses to uncover gender relations and gender (in) equality associated with division of childcare and housework before and after recipe day nutrition education in northern Malawi.

Epistemologically, this research produces empirical knowledge derived from the experiences of couples as they interact with each other in their everyday life in relation to domestic work (Previte, Pini, & Haslam, 2007). This is based on Feminist standpoint theory which conceptualizes that knowledge is socially situated; as such both privileged
and marginalized groups should be included in knowledge production (England, 1994; McDowell, 1992; Riger, 1992). The inclusion of both oppressed (women) and oppressors (men) in this research will make it possible to generate less partial and distorted accounts of ways in which child care and domestic work are perceived and performed in the households. In this case, the ontology of this study is that facts and data are rooted in values and judgements, and are held within the larger production of knowledge and power (Harding, 1996). I therefore build on the claim of feminist geographers who posit that there are no universal and historical laws of human behaviour, but descriptions of how people act in certain places at certain times of life course (Riger, 1992; Funk, Salathe, & Jansen, 2010). Understanding that human behaviour is dynamic, I will be able to inquire the level at which couples participate in domestic work before the introduction of the recipe days education and later make a follow-up to find if there would be any changes in couples’ behaviour in relation to domestic work.

2.6 The outsider within (Positionality)

A feminist epistemological approach requires that researchers should be critical of the unequal power relations between the interviewers and the respondents (Merriam, Lee, Johnson, & Muhamad, 2001; McDowell, 1992). This is based on the politics of representation in which investigators pose some authority in the form of gender, race, social economic status or education that may affect or influence the interpretation of people's experiences. According to Wilton (1999), if researchers are not conscious of their position in the course of the study, the credibility of their research findings can be questionable as they may not necessarily represent the experiences of the research participants. It is also acknowledged that researchers may use similar techniques of investigation and share the same assumption but depending on their contextual experience and research setting, each one of them may access and interpret data differently (Johnson, 1997).

According to Merriam et al., (2001), researchers who overlap both sides of the “dichotomy” of being both an insider and outsider may have a privilege of understanding the context from the viewpoint of the marginalized and oppressors. In this research, my dual positionalities as both insider and outsider significantly strengthen the findings. As an insider, I am a married Malawian man with children and as such, I have an experience
of child care and housework activities that are performed in the research area. In addition, I was raised in a similar community and family structure to that of research participants. I also performed most of productive and reproductive activities that sustain people’s livelihood in northern Malawi. These attribute offer me an opportunity of sharing a similar frame of reference with research participants which may maximize my interpretation of both verbal and nonverbal communication. This assertion is based on symbolic interaction theory, which postulates that individuals interact through symbols such as words, rules, gestures and roles (Yavuz, 2012; Serpe & Stryker, 2011). For instance, in a family, people interact and develop roles according to symbols that are used to describe the family. Depending on individual’s role, family members react to situations based on symbolic meaning attached to each role. A researcher can accurately understand and interpret family behaviour if he/she is able to effectively understand societal communication symbols. On the other hand, I hold a privileged position of being a graduate student studying abroad and have experienced different social life from that of research participants. This “outsider” position offered me an opportunity to critically question participants’ perceptions and beliefs surrounding meaning attached to domestic work that community members (including myself before studying Gender and Geography) took for granted. In addition, husbands were eager to share with me sensitive marital information as they were assured that I would not share with other people in the community. Knowing that these two positions may undermine the way I could perceive reality, I attempted to be self-reflexive by balancing my position as an insider while not compromising my role as a researcher. In addition, an interview guide was constantly used as a checklist in order to make sure that all relevant topics are covered (Patton, 1997).

Furthermore, I took into account that feminist standpoint theory claims that knowledge is socially constructed and that most of what we call knowledge is engendered as it mostly reflect the views of men (Collins, 1997). To include the views of women while maintaining the power balance and outsider-within position, a female research assistant was employed to interview women. The arrangement was necessary because the research was taking place in a patriarchal society in which women hold a marginalized position such that even though I was an insider, being a man could compromise the type
of data that I could get from the women (Campbell et al., 2010). According to Webb (1993 p. 417), “women social scientists are better equipped to make comprehensive study of exploited groups. Men often do not have the experiential knowledge, and therefore lack empathy, the ability for identification and because of this they also lack social and sociological imagination”. The research assistant was a married woman in her 30s with a child. She was brought up in the same region where the research took place. Although she was sharing the same experiences with the participants, the research assistant held a somewhat privileged position because she had a higher education and was also employed. These attributes assisted her to equalize power imbalance with respondents as participants were able to see into her world as one of them. On the other hand, her profession as a community development officer and her previous research experience with various graduate students from Canada and United Kingdom in the same area assisted her to remain focused on the research objectives during interviews and participant observations. Therefore, this research has a higher degree of credibility as both of us managed to utilize our inside/outside privilege to preserve respondents’ experiences during data transcription and presentation of the study findings (Hesse-Biber, 2012).

2.7 Feminist Activism and Participatory Action Research (PAR)

This study also utilized feminist activism research and PAR because it takes into account the needs, interests and experiences of both men and women with an aim of improving the wellbeing of family members (Ackerly & True, 2010). According to MacKinnon (2011), PAR combines activism with systematic and rigorous research to realize social justice. In this case, a researcher collaborated with participants to examine factors that perpetuate household gender inequality and later discussed with organizers to incorporate these findings during the recipe day nutrition education. Research participants and stakeholders were engaged in suggesting ways in which household gender inequality can be addressed. This resonates with what Pain et al., (2003 pp. 46) have stated:
The defining characteristics of participatory research are not so much the methods and techniques employed, but the degree of engagement of participants within and beyond the research encounter. Participatory approaches did not originate as a methodology for research, but a process by which communities can work towards change.

The application of PAR model was in line with the goals of SFHC project which strive to use transformative education for social change instead of information dissemination for behaviour change which has limited effectiveness in improving health status of rural communities (Satzinger et al., 2009; Bezner-Kerr et al., 2008; Travers, 1997). It was observed that through the use of pile sorting exercises during pre-recipe day interviews, many husbands were able to recognize that they were not taking a greater role in childcare and housework. This acknowledgement created a conducive environment in which the researcher was able to interview participants to explain reasons why there was such gender disparity and suggest solutions in which the inequality may be addressed. The involvement of research participants and informants throughout the study with an aim of finding solutions to the problems that affect the lives of children was one way of building community capacity (MacKinnon, 2011).

In addition, the aim of PAR is to involve participants in various stages of the study with an aim of making them owners of the research (McTaggart, 1991; Cook et al., 2011). In this study, although the participants were not actively involved in all stages of the research, to some degree we shared the ownership. For instance, before initial start of the study, representatives of research participants were invited to discuss the objective of the study with a researcher. They took a leading role in deciding potential research participants according to the criteria that I gave them. They were also given a chance to decide the dates, venues and resources that were required during recipe day nutrition education sessions. Throughout the study period, I involved informants and respondents by orally summarizing the interviews and asking them if the data reflected what they knew. The aim was that different stakeholders should regularly validate the accuracy and trustworthiness of the gathered data (Blodgett, Fisher, Watson, & Wabano, 2011). Finally, the findings of this research will be disseminated to the concerned communities in the months of June and August 2013. Various channels of communication such as open thesis defence (three research participants from the study area will be part of the
audience), village meetings, drama and songs (edutainment) will be used to reach the audience. The dissemination of the research findings to the intended beneficiaries is a critical stage in PAR as it empowers communities to reflect on the results and bring social change (Goto, Tiffany, Pelto, & Pelletier, 2012; Kelly, 2005).
CHAPTER THREE

STUDY DESIGN, METHODS AND RATIONALE

3.1 Introduction

This chapter reviews the methodological approach employed in this study. It begins with a brief description of the research area in northern Malawi, how a qualitative quasi-experimental design was used, the rationale behind the choice of this research design and finally how the data was analyzed. With a primary focus on the perceptions of couples on the division of domestic work before, during and after the recipe days, this study uses free listing, pile sorting, in-depth interviews and participant observations to examine if participatory nutrition education can affect the division of domestic work amongst couples in northern Malawi. To maximise the credibility of the study, regular member checking exercise took place every fortnight. A major limitation of the study that should be noted is that results cannot be generalized to other contexts due to inadequate sample size and inability to control for other confounding factors.

3.2 Research Setting: Ekwendeni area, northern Malawi

This research was conducted in Ekwendeni, the northern part of Malawi. According to the United Nation Development Program Human Development Report (2007), Malawi is one of the poorest countries in the world and is ranked 164 out of 177 on the Human Development Index (National Statistics Office, 2011). More than 80% of the population lives in rural areas with an estimated 65% living in poverty (NSO, 2011). The agricultural sector employs 78% of the labour force and contributes about 90% of the country’s export earnings (NSO, 2011). Ekwendeni as shown in Figure 2 is a small trading centre which is approximately 20 kilometres north of Mzuzu city in Malawi. The town has Ekwendeni Hospital which offers both curative and primary health care services to over 70,000 people who resides within its catchment area (Bezner-Kerr et al., 2008).
Figure 2: Location of Ekwendeni
In the year 2000, a collaboration of the hospital and Canadian researchers launched the Soils, Food and Healthy Communities Project (SFHC) with an aim of improving soil fertility, food security and ultimately nutritional status of children in the area (Bezner-Kerr et al., 2007; Bezner-Kerr, Msachi, Dakishoni & Nkhonya, 2012). The project is based on an ecohealth model which takes into account the interrelationship of ecological, social and economic factors to improve human health (Arredondo & Orozco, 2012). In addition, participatory methodologies are used to involve and empower communities so that the gained skills and knowledge can be sustained. In this case, SFHC staff and scholars work hand in hand with community members through the Farmer Research Team (FRT) and community promoters. Current studies in the area have shown that intercropping of leguminous crops combined with participatory education has not only improved soil fertility but also food security and child nutrition (Bezner-Kerr et al., 2008; Bezner Kerr et al., 2010).

To promote the utilization of crop yields, the SFHC project members organize community based nutrition education “recipe days” with an aim of sharing recipes and at the same time promoting gender equality in the division of domestic work amongst couples, as depicted in Figure 3. My research is building upon this background to assess the impact of recipe day nutritional education sessions on household gender roles and child care practices amongst couples with under-three children in northern Malawi.
This study was conducted between May and August of 2012 in Edundu area outside Ekwendeni hospital catchment area (see Figure 2). After baseline interviews with thirty couples of various attributes, three recipe day education sessions were initiated by the SFHC project members. A total of three hundred and twenty-eight participants from 19 villages participated in the sessions. Amongst the participants were nine FRT members who organized all three nutrition education sessions. There were also eight traditional leaders and 12 elders who attended all the sessions. The 30 couples who were previously interviewed were also in attendance. On average, half of them attended two sessions and the last half attended one session. Later on, follow-up interviews were conducted with the same families that were interviewed before the recipe days.

To have a deeper understanding of the impact of recipe day education from both husbands and wives, I interviewed men while a female research assistant interviewed
women. Interviews were conducted in ChiTumbuka language and occasionally we used Chichewa language. ChiTumbuka is the local language in the area and Chichewa is a national language which is taught in all primary schools (Kamwendo, 2005). The research assistant is a fluent ChiTumbuka speaker as such she did not have problems in speaking with women. I am not a fluent ChiTumbuka speaker; as such I was supplementing it with Chichewa. This did not compromise the quality of the data because all my thirty respondents were able to communicate with me using both languages. This can be attributed to the fact that all of them have more than standard (grade) 7 education attainments. In a case where neither I nor the respondent understood the meaning of a certain term, a translator who was always on a standby was called to clarify the meaning of the word.

3.3 Research Design and Methodology

This study involved exploratory qualitative research in which a quasi-experimental pre-post intervention research design was used. According to Edmondson & McManus (2007), exploratory qualitative research is performed when little is known about the phenomenon under study and when a researcher is uncertain if theories from other contexts can be applied. In this regard, I explored whether participatory community-based recipe days can promote a more equal household gender division of labour and sharing of child care practices in a predominantly patriarchal Ngoni society in northern Malawi (McCracken, 2008; Acharya & Ghimire, 2005). In addition, while there has been considerable research on the household division of labour in southern Africa and a considerable amount done on why couples change their division of labour and decision-making in North America and Europe (Lachance et al., 2010; Kljajevic, 2011; Blackden & Wooden, 2006), very little research has been done in the African context for this question. Furthermore, there is no known published study in Malawi that incorporates household gender equality interventions with community capacity building (Miske, Meagher & Dejaeghere, 2010; Garcia, 2001). Finally, exploratory research is suitable in this context because even if gender inequality in the division of labour and allocation of resources operates in formal sector such as the work place and in informal domains such as the family, researchers have only managed to develop tools for evaluating and monitoring gender inequality changes in the formal domains (Miske et al., 2010). This
research is assessing change of gender inequality in an informal domain in which Kelleher described as the “harder-to-measure realms where cultural norms and practices are intertwined” (Barker, Rcardo, Olukoya, & Santos, 2010; Moser et al., 1989).

Data were collected on the research participants’ reported experiences and perceptions on childcare and domestic work before the intervention took place, and the same data were collected after the intervention had taken place. In the social sciences literature, this type of research is referred to as the One-Group Pretest-Post-test quasi-experimental design (Gumus & Çam, 2008). In essence, the design does not control for extraneous variables that may influence the outcome, and participants are not randomly selected, with an aim of maintaining natural setting in which subjects operate (Harmon, Morgan, Gliner, & Harmon, 2000). The choice of quasi-experimental design in this study is indispensable because the knowledge gained from this research is based on real life experiences and practices of the respondents in their natural environments, and worked with a participatory project in which respondents chose to take part in the intervention. The design helped me to gain deeper understanding of the reasons why recipe day nutrition education can change or not change household gender inequality in the study area by comparing pre and post intervention responses. In this research, Period 1 provided the baseline information on how couples made household decisions, how they participated in domestic work, reasons for such participation and their perceptions about who had higher workloads. I am making inferences as to the effect of the intervention by looking at the difference in the pre-test and post-test results as perceived by the couples as shown in figure 4 below.

![Figure 1: Quasi-experimental research design](image)

I also take into account that this research is a sub-set of a broader community based participatory project (SFHC) which is taking place in northern Malawi (Bezner-
Kerr et al., 2010). A priority was given to research methods that can promote collaboration between community members and the researcher. The following section describes the approaches that were followed to gather data while actively involving community members and stakeholders.

a. Free listing

Free listing is a qualitative research technique commonly used by cultural anthropologists to understand how different cultural groups classify concepts (Borgatti, 1998). The assumption is that people of a similar culture and locality share a common semantic understanding of a particular domain. When the method is used to study a particular group of people, face-to-face free listing is preferred as it increases recall through the use of probes (Ntumngia, 2009; Bernard, 2006). Free-listing also serves as a way of gaining familiarity with communal vocabulary for the topic under discussion. In addition, the technique is a precursor to pile sorting exercises as it allows a researcher to define and limit the domain in question. It also helps to frame items in the research participants’ own languages (Bernard, 2006). Free listing was used in this research in order to understand concepts and categories that belong to childcare and housework activities in the Ekwendeni catchment area. To understand the changes in couples’ participation of domestic labour, childcare and housework activities were treated as separate entities as they are affected differently based on the gender and socio-economic status of a parent involved (Deustsch et al., 1993; Cook, Randal, & Andrew, 2005). For example, studies in the United States shows that fathers spend more time in childcare than in housework tasks and that housework unlike childcare is more affected by maternal relative economic status (Ishii-Kuntz, 1994; Bianchi, Allard, Stewart & Wight, 2007).

Twenty free listing participants were purposefully selected from the villages that previously took part in participatory nutrition education days and from the villages that were going to have participatory nutrition education. The 20 participants were thought to be an adequate sample size to get a clear picture of the phenomenon under study (Weller & Romey, 1988). All households selected were those with cohabiting married couples at the time of the research. The household characteristics that were purposively sampled included: age range (so that older and younger couples were sampled), number of children in the household, household structure (nuclear and extended families), and
socioeconomic status. All the participants read and signed the consent form which was translated into Chitumbuka, (see Appendix 2) and they were asked to write childcare and housework tasks that were done in their households on a paper with columns clearly indicating childcare activities and housework activities. Participants assisted each other where a need arose, for example, discussing an appropriate name for a particular domestic work, or spelling and writing some words in the local language. The free list responses were put into two columns and key informants such as FRT members (n=4) and community promoters (n=4) were asked to verify if the childcare and housework domains reflected reality in the study area. Table 1 shows childcare and housework activities that were developed from free listing exercise.

<table>
<thead>
<tr>
<th>Number</th>
<th>Childcare activities</th>
<th>Housework activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feeding the child</td>
<td>Cleaning kitchen utensils</td>
</tr>
<tr>
<td>2</td>
<td>Cooking food for the child</td>
<td>Fetching food</td>
</tr>
<tr>
<td>3</td>
<td>Changing diapers</td>
<td>Drawing water</td>
</tr>
<tr>
<td>4</td>
<td>Taking the child to under five clinic</td>
<td>Putting clay mud on house for ongoing maintenance called “smearing the house”</td>
</tr>
<tr>
<td></td>
<td>“scale”</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Washing child’s clothes and beddings</td>
<td>Going to the maize mill</td>
</tr>
<tr>
<td>6</td>
<td>Finding food for the child</td>
<td>Earning money for the family</td>
</tr>
<tr>
<td>7</td>
<td>Playing with the child</td>
<td>Chopping firewood</td>
</tr>
<tr>
<td>8</td>
<td>Findings toys for the child</td>
<td>Cooking</td>
</tr>
<tr>
<td>9</td>
<td>Escorting the child to nursery school</td>
<td>Fetching firewood</td>
</tr>
<tr>
<td></td>
<td>Childcare activities</td>
<td>Housework activities</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Taking the child for medical treatment</td>
<td>Caring for the livestock e.g. chicken, pigs</td>
</tr>
<tr>
<td>11</td>
<td>Nursing the sick child</td>
<td>Pounding maize</td>
</tr>
<tr>
<td>12</td>
<td>Preparing the bed for the child</td>
<td>Attending to the home garden</td>
</tr>
<tr>
<td>13</td>
<td>Bathing the child</td>
<td>Digging the rubbish pit</td>
</tr>
<tr>
<td>14</td>
<td>Carrying the child/baby sitting</td>
<td>Bed making and sitting room making</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Taking care of the surroundings e.g. sweeping</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Ironing</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Cleaning the house/ mopping</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Shopping for clothes</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Home nursing of a sick or elderly person</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Digging and building a pit latrine</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Herding livestock especially cattle in the bush</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Washing clothes</td>
</tr>
</tbody>
</table>

Table 1: Childcare and housework activities

b. Interviews

I take into account that there are no defined indicators that are used to assess the impact of programs that aim at addressing gender inequality on the division of domestic
work in the informal sector (Moser, 2007). In this regard, both open-ended and closed-ended in-depth interviews were deemed necessary to quantify and understand the division of domestic work before and after recipe days. The research participants (n=60) were purposefully selected with the assistance of SFHC staff from the list of couples registered in the baseline survey data (conducted in February 2012 by Ekwendeni Hospital) in the Edundu area where the participatory nutrition education took place. The criteria for selection included being a married couple (both monogamous and polygamous households), having children under three years of age, and having a diverse range of households in terms of age range, number of children in the household, household structure, food security and basic educational background. We focused on the families with children under three because it is the age range which is more vulnerable to malnutrition (Blackden & Wooden, 2006). The interview sessions began with the pile sorting exercise to find out the number of childcare and housework activities that were done mostly by husbands, wives or by both partners. All domestic work was written on cards prior to the interviews so that they were consistent from one respondent to another. The aim was to produce consistent data which could be comparable within and across the households, and to identify patterns, common themes and perceptions for such division of domestic work.

(i) Pile Sorting

Pile sorting is a structured data collection strategy which usually follows a free listing exercise (Borgatti, 1998; Sinha, 2003). It is mostly used by cognitive anthropologists in order to understand how a particular community thinks about a particular domain (Wilson, 2003). In this research, pile sorting has been used to gather pre and post-participatory community based recipe day education data on the division of housework and childcare activities amongst couples in the households. A pack of cards containing different childcare and housework activities were developed from the free listing exercise. Participants were asked to sort the cards into three categories for both childcare and housework activities to indicate activities mostly done by their partner, activities mostly done by themselves and those they share or do together. The pile sorting exercise was repeated with the same 30 couples after a month of nutrition education to see if there were any changes in the ways in which wives and husbands divided these
domestic tasks. An in-depth interview to solicit more information from the participants followed the pile sorting exercise.

(ii) In-depth interviews

In-depth interviews as a data collection tool are commonly used to learn about subjective experiences and attitudes of individuals and groups in a particular context (Holloway, 2009). The method allows a researcher to gain greater knowledge and deeper insight into the participants’ experiences as it gives room for probing questions (Collins & Nicolson, 2002). In addition, the flexibility of the methodology also allows the respondents to express their perceptions and attitudes in their own terms and at their own pace (Gill & Liamputtong, 2009). Furthermore, in-depth interviews are capable of capturing unexpressed messages like gestures, facial expression and emotions which cannot be gained if survey questionnaires were used (Poland & Pederson, 1998).

In this research, face-to-face in-depth interviews took place in the participants’ homes for a range of 35 minutes to 68 minutes in length. Observing the home environments was important because they provided both geographical and social contexts in which I was able to make sense and interpret the participants’ responses. In addition, I was able to verify the truth of respondents’ narratives because it was possible to see some of the things that were being discussed. In such a context, it was also possible to probe deeper into the initial participants’ responses in order to gain more detailed answers to the posed questions.

To maximise trustworthiness in the collected data, the interviews with couples were done simultaneously; that is, I interviewed the husband while an assistant researcher interviewed the wife. Immediately when we were back in our office, we compared the responses that husband and wife gave. A separate notebook was assigned for daily research updates. Three columns were designed in which we wrote in domestic work that both couples agreed as mostly done by the husband, wife or by both of them. We also compared reasons that couples stated for their involvement in a particular childcare and housework activities. We did the same procedure during the post recipe days interviews. Finally, comparisons of husbands’ and wives’ responses before and after recipe days were made. I checked for the areas of agreement in terms of their role in child care and housework over the four months period. We also asked about their values and perceptions
of domestic work before and after recipe days to check if there were some changes in their gender attitudes.

c. Field visits and informal participant observations

Observations are a significant source of primary data in community studies because they provide supplementary information and clarification on respondents’ interviews (Patton, 1999). Observational data encompasses facial expressions, clothing, vocal tones and gestures of respondents to the general physical characteristics of the environment within which research participants live. Pertinent observations are those that contribute to an understanding and clarification of issues under discussion.

Informal observations were made during the home visits and during the recipe day educational sessions initiated by the SFHC project in the study area. The focus during the home visit observations were on the gender roles with regards to the division of child care and housework in the households. Particular attention was paid to the type of domestic work in which wives and husbands were involved, the type of foods that were given to their children and the general state of the households such as type of house, cleanliness of the surroundings and availability of basic household resources such as kitchen and food storage facilities. During the participatory nutrition education sessions, my observations were focused on the kind of domestic work in which husbands and wives were involved, the utensils that were used, the type of dishes that were prepared, their degree of participation and their reactions. In addition, I also took note of participants who were present, their social status in society, and how they were involved in the educational sessions. Furthermore, key notes were made on the major themes that were promoted, individuals who were responsible for facilitating the activities and how participants reacted to the lessons. Field notes were written up immediately following all observational activities, to ensure high data reliability.

3.5. Data analysis

Free-listing results, pile sorting results and in-depth interviews were transcribed from ChiTumbuka (a local language of Malawi) to English by the student and his research assistant. Our collaboration was important because we were able to analyze participants’ responses using both feminine and masculine lenses. This is in accordance
with feminist stand point theory which states that both men and women have a stand point from which they view the world and it is from that point that makes them to focus on particular issues and obscure some issues (Hartsock, 2004). For example, women stated that they mostly take care of their children because they have more love “chiulavi” than their husbands. When we were discussing about this theme, I argued that both husbands and wives have love towards their children. From my research assistant’s perspective, a mother’s love is associated with labor pains when she was bearing the child that a woman will always remember. Since husbands do not have such experiences, she and other women felt they are not very concerned with the welfare of their children.

Data from the pile sorting exercise, in-depth interviews and participant observations was obtained in the form of field notes and audio tapes. The process of analyzing data began on the same day that the research was commenced. We read over the field notes, pile sorting transcripts and listened to the audio tapes once we were back from the research area. This process assisted me in identifying some general patterns in which couples were participating in domestic work and in the decision making process while field experiences and observations were still fresh.

The in-depth interview guide, which was formulated from the research objectives, also assisted in generating themes that were used in data analysis. For example, recurring themes in an answer to a particular question were used to identify consistencies and contradictions amongst and across couples who took part in the study. Together with my research assistant, we were able to compare the responses of husbands and wives for each question. It is from this stage that I managed to categorize the information into themes. Within major themes, I was able to identify sub-themes which assisted to sort out the response of participants. I traced the frequency in which a particular response was given by the respondents and match with a particular sub-theme; this helped to bring out the general pattern in the data. According to Elo & Kyngas (2008) and Baxter & Eyles (2004), this process is referred to as manifest content analysis. For example, respondents were asked to explain reasons why wives were doing more domestic work than their husbands. The responses to this question were diverse, and the themes that emerged confirmed that women were burdened with both productive and reproductive activities.
Under this theme, sub-themes emerged in relation to the household division of labour. For example, one sub-theme that emerged was that wives are the “eyes” of the family while men are the “heads” of the families. The process of identifying sub-themes was important for locating key themes, patterns, ideas, and concepts within the data. Elo & Kyngas (2008) and Patton (1987) refer to it as latent content analysis, which involves searching the text for themes.

After completing the field work and transcribing all the 120 interviews, I re-read the transcripts four times and started formulating the codes based on existing literature on household gender theories, on my summarized field notes and the on pile sorting checklist results. As I worked through the analysis, several types of codes began to emerge. The first to be identified were the broader descriptive codes that related to factors that predict couples’ involvement in domestic work. For example, there was a recurring theme on family economics in which agriculture and casual labour were the main source of income and that both couples were involved in these economic activities. In this case, the codes “household productive work” and “household productive assets” were identified to represent the relative economic resource model that explains how household economics can lead to one partner doing more domestic chores than the other (Deutsch et al., 1993). These are etic types of themes, because they were linking participants’ experiences with household gender concepts and theories that come from outside the culture being studied. When I was probing to their responses, participants were explaining reasons behind gendered division of domestic work such as socio-cultural factors that are embedded in Ngoni culture. From such explanations, emic themes that are terms that come from the Ngoni culture such as “gendered spaces” and “love potion” were emerging. In this regard, I was interpreting the etic codes by referring the experiences of respondents to academic literature while emic codes were explicitly revealed by the participants through their local beliefs and values as they emerged in the transcripts (McFarland, Mixer & Burk, 2012).

Coding was done on a line-by-line and paragraph-by-paragraph basis after merging all pre-recipe day data into one spreadsheet and on hardcopy pile sorting checklist results. Different colors were used to highlight the themes. After coding all the data, tables were drawn in which all the themes and sub-themes were entered as
illustrated in Appendices 7 and 8. The tables also included identities of participants, particular themes and sub-themes to which each one of them contributed and the page number in the soft copy and hard copy datasheets. This grouping of codes improved my ability to know the main themes and sub-themes as they were clustering around common issues. This process was repeated with the recipe day soft copy data and post recipe days soft and hard copy data. Lastly, I used the themes and the sub-themes that were raised by more than ten respondents to present the results of this research.

3.6 Ethical Considerations

This research was approved by the Office of Research Ethics at Western University (See Appendix 1). In the proposal, I made it clear that the study was unlikely to compromise the physical and mental health of the participants. However, an arrangement was made with the hospital to urgently treat any individuals sent by the researcher if their mental health was compromised.

Informed consent was sought verbally in the local language for each research participant during interviews. Respondents were told that their confidentiality would be safeguarded and secured at all times (See Appendix 2). They were also told that they had a right to accept or decline to participate in the research, to respond or to refuse to respond to any question. Verbal informed consent was deemed necessary as previous studies in the area also used the same technique, due to high levels of illiteracy and suspicion of having to sign a document (Bezner-Kerr et al., 2007).

All data collection tools such as notebooks, interview guides and digital voice recorders were kept in a secured lockable cabinet at Ekwendeni Hospital, Primary Heath Care section, Agriculture office. These tools were only accessed by me, the primary investigator and my research assistant, who also signed the confidentiality agreement form (see appendix 3). Lastly, to ensure confidentiality, pseudonyms have been used throughout this thesis when quoting or expressing the views of the research participants.

3.7 Feedback to Community

A village level workshop was organized on 15th August 2012. Seventy participants were invited and amongst them were nine chiefs, thirteen elders, five community promoters, five administrators, twelve farmers, ten FRT members and sixteen
research participants. The meeting had equal representation of both male and females and everybody had equal opportunity to talk because they understood that the theme of that day was on gender equality. I presented the preliminary findings during the workshop. Participants were told that they were free to ask any questions and to clarify some points or to add some ideas. For example, participants provided further emic explanations for the low participation of husbands in decision making about child foods. They explained that much of the foods that children eat are locally found and as such, women intrinsically know that it is their duty as mothers to prepare the food. They also pointed out that public health planners perpetuate household gender inequality as most of the programs relating to children target mothers. They suggested that both partners in the couples should be involved in gender and childcare programs in order to reduce conflicts that arise when only women are educated. The whole group agreed that the preliminary results obtained from the sample population depicted the social dynamics in many households including those that participated in recipe day education. I provided a copy of the adjusted preliminary results to the staff of Soils, Food and Healthy Communities project in which I highlighted the possible impact of recipe day education on the division of domestic work amongst couples in the study area. Suggestions were also made as to how the recipe day education can be improved to maximize benefits to the community members. Some of the suggestions included proper communication amongst all stakeholders and inclusion of pigeon peas and pearl millet preparation techniques.

3.8 Strengths and limitations of the study design

Strengths

Qualitative research design is an appropriate method to use when a researcher seeks to understand people’s interpretation about a particular phenomenon (Kvale & Brinkmann, 2008; Golafshani, 2003). The method is suitable in this study because it is dependent on participants’ perceptions to explore the impact of recipe day’s educational element on the division of domestic work. As already pointed out, there are no known standardized tools that are used to assess the effects of interventions aiming to promote household gender equality. The methodology is also aligned to the constructivism paradigm, which acknowledges that reality changes with changes in people’s perceptions (Hudson & Ozanne, 1988). In this regard, qualitative research design is deemed
necessary as it takes into account human values, and the social context (Strauss & Corbin, 2007).

In addition, Harris, Furuno, Zhu & Peterson, (2006), and Cook & Payne, (2002) stated that quasi-experimental research is appropriate to evaluate the effectiveness of the intervention in a context in which participants cannot be randomly selected into control and study groups. In the case of this study, it could be ethically inappropriate to withhold recipe day education to some participants because they could be denied a chance of learning and accessing nutritious foods which are prepared and consumed during the day, so it was decided to not include a control group. This was necessary, as the study only took four months which could not be feasible to come up with nutrition education in the control group due to limited time. In addition, it was not feasible to randomly select the participants as the research was being conducted under participatory project whereby people choose to take part or not.

This research has used a variety of methods to understand multiple versions of reality. According to Marshall & Rossman, (2010), interpretive research requires triangulation of data in order to validate the results. Triangulation is an effort to completely clarify the richness and complexity of human behavior by studying it from multiple stand points (Duffy, 2007a). The use of free-listing, unstructured interviews, in-depth interviews, and participant observation assisted me to cross examine the results. Therefore, intrinsic biases that may arise due to the use of a single data collection method were minimized.

In addition, to maximize the credibility of this study, member checking was taking place once a fortnight. I and my research assistants were conducting informal focus group discussions with selected research participants, FRT members, community leaders and community promoters. The aim was to correct errors, obtain additional information and to assess the overall sufficiency of the data. Through these discussions, I began to understand meanings behind myths and idioms that respondents were conveying during in-depth interviews.
Furthermore, this research also acknowledges feminist standpoint perspective which states that knowledge is molded by the social setting of the knower (Wuest, 1995). Depending on various identities and social roles, such as social status, race, and gender, people have different ways in which they perceive a phenomenon (Weber, 2006). Therefore, the inclusion of both members of couples with varying social classes was necessary in order to have multiple views of the impact of recipe day education on the division of domestic work. In addition, throughout the study period, the research used both male and female researchers to interview participants who were of his/her gender. The arrangement was necessary because many of the questions were focused on sensitive gender relations within the households. If a male researcher were the sole interviewer, women could feel uncomfortable and intruded upon their private life, which could compromise women’s perspectives during analysis (Russell, 2007).

Finally, since the researcher was from the country where the research took place and the research assistant was from the same study area, it was possible to assess the validity and trustworthiness of the responses. This could be otherwise impossible if we had cultural differences or barriers because they could affect our ability to observe and interpret both verbal and non-verbal communications.

**Limitation**

The weakness of this research is that the researcher was so involved in the research process that his subjectivity may have been skewed in favor of the recipe day education objectives. This subjectivity can also bias the interpretation of the results (McGarity & Wagner, 2008). But through constant member checking with the assistant researcher and other stakeholders, subjective potential bias resulting from subjectivity was minimized. In addition, social desirability may have influenced participants to report what is perceived to be normal or desired in that society or by the researcher (Walker, Lews, Pham & Butz, 2008). The reported data may confound the research results because true results cannot be easily detected. Social desirability reporting in this study was checked by referring to the concrete examples of domestic work that couples did in the past three days, by cross checking with their partners’ responses and through participant observations. That being said, I suggest that prospective cohort studies with a large
sample size and a control group be done in the area to validate the findings of this research.

Another limitation of quasi-experimental research design as used in this study is that it is difficult to confidently attribute any observed or perceived changes in human behavior to the recipe day education intervention alone (William, Shadish & Campbell., 2002; West, Biesanz & Pitts, 2000). In this case, this research falls short of internal validity in that we cannot establish a causal relationship between recipe day education and perceived distribution of domestic work amongst couples. The research did not control for other independent variables which might also affect the division of domestic household labour other than the recipe day education.

In addition, the research did not have control households which may lead to failure in identifying "rival hypotheses" which may equally explain the observed results hence limiting its validity (Harris et al., 2006). Finally, the findings of this study cannot be generalized to other contexts because it has a small sample size and a non-random sampling technique was used. Although this is the case, the pre- and post-recipe day interviews provided adequate data to compare the level at which couples participate in different domestic work and how satisfied they were. Since this is an exploratory research, more rigorous research design should be done elsewhere in order to ascertain if recipe days education really brings changes in the division of domestic work amongst couples.

Validity and reliability of results

Scholars debate whether it is appropriate to assess validity and reliability in qualitative research as these tools are based on positivist epistemology (Morse, Barret, Mayan & Spiers, 2008; Golafshani, 2003). According to Bashir, Afzal & Azeem, (2008), validity refers to the extent to which research instruments measure what they were intended to measure. On the other hand, reliability refers to the extent to which the research results are consistent over time and their reproducibility under similar research methods. Credibility of qualitative research depends on the ability and effort of the researchers as they are instruments for gathering data (Morse et al., 2008). In this
research, validity was achieved through the involvement of research participants throughout the study period in assessing relevant categories, themes and conclusions. The study reflects childcare and housework activities and how they are perceived in the study area. Data was gathered through free listing exercise, interviews and participant observation. All information was recorded accurately by using tables, detailed notes and digital recordings. Balance of the narratives was achieved through interviewing both wives and husbands whose results were compared. In addition, member checking was achieved by seeking feedback from all stakeholders. Preliminary results were presented and participants were free to critique the results so that amendments could be made. The process ensured that accurate views of research participants are presented in the final writing. On the other hand, this is a qualitative research study aiming at exploring and understanding changes in household gender roles in the Ekwendeni area. Gender roles are social constructs which are dynamic over time and space and, as such, reliability of the results is context-based (West & Zimmerman, 1987). In this case, the results of this study cannot be generalized in all communities in Malawi or for different time periods.

3.9 Summary

This chapter focused on the study design and methods were used in this research. It has described the exploratory quasi-experimental research design and the research techniques used, namely free listing, pile sorting, observation, structured and in-depth interviews, to understand participants’ perceptions of the division of domestic work before and after recipe days. The chapter also discussed ways in which research participants were selected and reasons why children under the age of three were the primary focus in this research. I concluded the chapter by highlighting that the research tried to minimize harm to its participants through a rigorous assessment by the Western University ethics board and collaboration with Ekwendeni hospital in the research area. The preliminary results were also verified by all stakeholders giving the study a degree of reliability.
CHAPTER FOUR:

FINDINGS OF THE STUDY

4.1 Introduction
The major objective of this study was to explore and understand the potential impact of community based recipe day nutrition education on the participation in household domestic work and knowledge of child care practices from the perspective of couples and key informants in the research area. This chapter highlights the findings gathered before, during and after the recipe day nutrition education with thirty couples in Ekwendeni, Malawi. I present a detailed picture of both productive and reproductive works in which research participants were involved to sustain their livelihoods and families. I also identify the extent to which individual partners were participating in various types of domestic tasks, the type of foods they were feeding their children and how they made household decisions.

The results of this research are organized into three main sections. The first describes household gender roles and childcare practices that were taking place before recipe day education. The second describes recipe day education sessions including: the goals of the sessions, the knowledge and skills that were promoted and the social relations of the participants. The third discusses gender roles and childcare practices performed by couples after recipe day education sessions. All three parts are organized into key themes and sub-themes and where necessary, quotations have been used to help contextualize the findings. The respondents’ sex (F= Female, M= Male), age and pseudonyms are indicated at the end of each quotation. The research participants’ quotations were selected to ensure not only “representativeness”, but also vividness in reporting of themes (Seale & Silverman, 1997). Pictures and tables have been used to facilitate the reporting of results.

PART 1: Pre-recipe day interviews

4.2 Household productive work (Pre-recipe day interviews)
Household productive work encompasses the goods and services households produce for their own consumption by combining their own unpaid labour and the goods and services they secure on the market (Silbaugh, 1996). According to the relative
resource household labour theory, a wife and husband upon getting married enter into a bond in which a partner with low household economic output exchanges his/her household domestic labour in return for economic support from the breadwinner (Brines, 1994). In this case, it is important to understand household economics because it can explain the reasons behind the degree to which married couples participate in various domestic activities. The results of this study have indicated that crop production, livestock production, small scale businesses, casual labour locally called “ganyu” and remittances from sons who work outside the area are the main sources of household livelihoods in the area. Table 2 gives outlines the household productive work in which household members in the research area are engaged to secure income.

<table>
<thead>
<tr>
<th>Source of income</th>
<th>Frequency</th>
<th>Percentage out of 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husbands (n=30)</td>
<td>Wives (n=30)</td>
<td></td>
</tr>
<tr>
<td>Farming</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Casual labour (Ganyu)</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Small scale business</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Remittances</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Livestock production</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2: Main sources of household income

4.3 Perceived primary factors in household production

Primary factors in household production are all valuable resources available in a family that have a potential to produce something that is economically desirable (Kataria, Curtiss & Balmann, 2012). These include physical capital such as farm equipment and natural resources such as land and human capital. According to Brooks & Nafukho (2006), human capital refers to the knowledge and abilities which are embodied in humans and are attained through schooling, training and experience and are used in the creation of goods and services.

During the interviews, research participants were asked to explain sources of labour and land that they were using in the production of food and income. All respondents commented that both farm and off-farm production activities were conducted by all family members. Husbands, wives and sometimes older children were going to the farm around five o’clock in the morning and completed their work around one o’clock in
the afternoon. Equal participation of couples in economic activities may suggest that relative resource theory is not an adequate theoretical explanation for household gender inequality in northern Malawi.

4.4 Household reproductive work (Pre-recipe day interviews)

Household reproductive tasks are all activities that are performed in the family with an aim of maintaining daily life such as food preparation, cleaning and maintenance of the household structures (Parrenas, 2012). All nurturing unpaid household labour that reproduces the next generation such as caring of the children and the youth are also included in reproductive work (Duffy, 2007). In this research, household reproductive work has been categorised into two groups: childcare activities and housework activities.

4.4.1 Childcare activities

During free listing exercises, participants identified fourteen childcare activities which are commonly performed in the research area. These childcare activities were written on the cards by a researcher and during the in-depth interviews, respondents were asked to sort them into three categories based on the perceived degree of a person’s involvement in a particular activity. Table 3 shows the results obtained from first pile sorting exercises which were conducted before recipe day education sessions.
<table>
<thead>
<tr>
<th>Childcare activities</th>
<th>Mostly done by wives (% of responses n=60)</th>
<th>Mostly done by husbands (% of responses n=60)</th>
<th>Done almost equally (% of responses n= 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathing the child</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Preparing child’s bed</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nursing the child when sick</td>
<td>58 (97)</td>
<td>2 (3)</td>
<td>100</td>
</tr>
<tr>
<td>Finding toys</td>
<td>5 (8)</td>
<td>10 (17)</td>
<td>45(75)</td>
</tr>
<tr>
<td>Playing with the child</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Baby sitting</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Going to hospital with the child</td>
<td>15 (25)</td>
<td>-</td>
<td>45(75)</td>
</tr>
<tr>
<td>Nursery school</td>
<td>25 (42)</td>
<td>2 (3)</td>
<td>33(55)</td>
</tr>
<tr>
<td>Fetching food</td>
<td>-</td>
<td>35 (58)</td>
<td>25(42)</td>
</tr>
<tr>
<td>laundry</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Taking the child to clinic</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Changing diaper</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cooking for the child</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Feeding the child</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3: Division of Childcare activities

The results from pre-recipe day nutrition education pile sorting exercises indicate that women in the study area were responsible for about 90% of all childcare activities. As indicated in Table 3, none of the childcare activities were done primarily by husbands, except finding food which will be discussed in section 4.8.1. It has been observed that both partners were involved in escorting children to the hospital, as well as finding toys and fetching food for the children.
4.4.2 Reasons for unequal participation of couples in childcare activities
a. Perceived lack of time

Throughout the in-depth interviews, 60 participants stated that husbands do not have adequate time to participate fully in childcare activities. In the morning, they spend time working in the crop fields and during this time, a wife either lays the child on a mat or she carries the baby on her back while working too. After returning from the fields, three quarters of the husbands said they would chat with their friends till dusk. The following conversation with one research participant explicitly showed that lack of time was associated with low husband participation in childcare activities.

Researcher: In your pile sorting exercise, it is shown that your husband does not do a lot of childcare activities. Can you tell me why this is the case?

Walipo: In most cases, my husband does not stay at home. He goes to chat with his friends but many times he goes to drink beer because he is a Ngoni (Walipo, 33, F).

I also observed that men were spending more hours in the afternoon drinking beer as depicted in the Figure 5 below which supported the interview responses. Many participants explained that traditionally a “real Ngoni man” must drink beer and have a polygamous family. These concepts of masculinity help foster gender inequality. It is worth noting that the Ngoni tribe is one of Malawian ethnic groups, which originated from South Africa in the early nineteen century (Kayambazinthu, 1998). The tribe was known for its aggressive behaviour as they were warriors. They conquered many tribes in northern Malawi in the late nineteenth century (Takane, 2008). Although the Ngoni people in the study area are acculturated and assimilated with the local people, especially the Tumbukas, they still hold some of their traditional beliefs.
b. Biological explanations - embodiments

Fifty-two respondents explained that some child care activities involve “dirty” work such as cleaning soiled diapers. They all justified that women should do this work because they are ‘naturally’ assigned to perform these tasks. Participants observed that women are the ones who give birth to a child, and as such, the child’s dirt is a component of their body. In addition, women breastfeed children which mean that there is still a connection between a woman’s body and her child. Based on these ideas, women are “naturally” meant to clean the child’s dirt, such as bathing them, washing their clothes and bedding without feeling filth. One respondent said that:

I cannot clean my child whenever he has soiled himself. I just call his mother to clean up the mess. I feel disgusting whenever she is cleaning him and you know that they are supposed to do that away from you. Yes! It is a duty of my wife because she do not feel sickened as she already handle his dirt when she was giving birth to the child (Mwenebanda, 31, M).

Twenty-four couples stated that husbands cannot look after children because they do not have breast milk to feed them. Women are biologically born to breastfeed the child, which makes it rational for them to have multiple child care roles as she is the custodian of the child. In one of the interviews, a man emphasized this point by saying that:
It is not my responsibility to take care of the young child; even my wife knows that I do not have a breast to suckle our daughter. If she can try to hand over the child to me, she cannot take 20 minutes before rescinding her decision and comes back to grab the child (Luka, 32, M).

The above observation was also supported by a woman who had a nine month old baby who said that:

You cannot leave a child in a hand of a man while you are quite aware that you are going to be away for an hour. If the child starts crying due to hunger, can he breast feed the baby? Only a mother who is irresponsible and childish can leave the child with her husband (Dorothy, 27, F).

In this case, couples justified that women are primary childcare givers because unlike fathers, they are naturally born with body features and experiences that maintain the life of a child and expose them to the child’s bodily excretions.

c. Chiulavi “Maternal experience”

During the interviews, participants expressed the view that mothers have special nurturing characteristics that men do not. A mother has a special love “chiulavi” towards her children which is formed between her and the baby during pregnancy and the childbearing process. The nine months of pregnancy and labor pain that a mother experiences creates a bond between her and the child. This attachment allows a mother to respond to any adverse situation that can harm the child. The following quotation gives a vivid meaning of a mother as more nurturing than a father:

Fathers do not have a profound concern towards the welfare of their children. I can explain it by giving you an example. You can be chatting under a tree as a couple while a child is playing somewhere. The child may fall down and start crying. A wife anxiously rushes to pick up the child. If the child is injured, a mother may start crying at the same spot. This situation is different with a father, he just shouts at the child so that she/he should be careful and responsible. He even blames a mother saying that she is failing to look after the child (Nyanyirenda, 34, F).

Another respondent agreed with the view of preceding woman by saying that:
The bond that mothers have on a child is different to that of a father with a child. A mother spent 9 months carrying the baby in her womb. She feels all sorts of pains before, during and after giving birth. During this time, we husbands we are busy enjoying ourselves to the extent of cheating on her because she denies offering you sex. The stressful condition that women pass through makes them to treat children nicely than men (Kaliza, 23, M).

To emphasize this point, one woman stated that mwana nimutima kwa ise wamama “a child is a heart for us mothers” which means that a mother, more than a father, is always attached to the child, and as such, they cannot stay for some minutes without considering the whereabouts of the child, unlike fathers.

d. Social obligation

In the study area, participants attributed socio-cultural norms that are considered appropriate for either a husband or a wife in a family as a major contributing factor for low participation of men in childcare activities. According to the research participants, a competent wife in Ngoni culture is the one who takes full responsibility of caring for the children at home. This notion is emphasized during the rite of passage ceremony, which takes place seven days after the birth of a child. Local councillors comprised of elder women only advise new mothers on how she should take care of the child. The central idea that is emphasized during the counselling session is that mwanalume nimwana “a man is a child” who does not grow up. In this case, women should not entrust their husbands with childcare responsibilities. Such teachings were shown to prevent mothers from seeing husbands as an important resource for child care activities. To illustrate this point, one respondent said this:

Sometimes my husband carries the child while I am working on something. During such a time, I pay a close eye on him so that he should not sneak with the child to the beer pub. I am afraid that he may hurt the child during the fights that usually erupt at the bar. I really feel stressed whenever my husband took the child (Rhoda, 39, F).

Some respondents also stated that the social obligation that women are responsible for childcare activities is indeed deeply rooted amongst elders and the middle aged women in the area. If elders in the area regularly see that a husband is the one taking care of the child in a family, they reprimand the wife as “irresponsible, lazy and immature”.

On the other hand, friends and relatives of one husband consistently told him to stop taking care of the child so that he can regain his household status as a leader. In this case, respondents said that they do not want men to be under the “petticoat government” whereby women dictate to their husbands to do whatever they want. The following conversation gives insight into the ways in which local society promotes mothers to look after their children while sidelining husbands’ role in childcare:

One day my wife went to wash clothes at the river and I extended my love to assist her in looking after the child. Other women who saw me busy carrying and feeding the child came and requested me to hand over the child to them. I gave them the child because in our society a child belongs to the whole community (Faluzi, 35, M).

In this case, socio-cultural factors impede husbands taking an active role towards child care activities.

e. Dads are incompetent in taking care of the kids

Throughout the research, there was a recurring theme that men are not capable of caring for children because they do not have child care skills. For example, couples stated that almost all husbands in the research area cannot manage to put a diaper on their children. Those who can pretend to do so can only wrap the child but not securely fasten it. One respondent clearly explained that men are undermined in childcare activities because they are not prepared and motivated to engage in such tasks. The following respondent explains why he does not take a major role in childcare activities in his household:

The fact that I am not entitled to take care of the children makes it logical not to learn childcare skills. It can be awkward for me to learn a thing that I know it will end up bringing misery as community members will be laughing and teasing me. I don’t want to stoop so low in this village in a pretext of loving my wife (Ndiuzaani, 26, M).

Lack of husbands’ knowledge and skills in childcare activities was also revealed by three-quarters of the participants who stated that men do not know how to fasten the child on their back using a piece of cloth. In the research area, a child is wrapped on the back whenever a mother is working or going somewhere. According to the participants, it requires a skill to tie the child properly or else the child may fall off. Women learn these
skills when they were young and as such, they do not have problems when they bear their own children. This is different from men who do not have such skills and as such they need someone to assist them whenever they want to carry the child.

It was also revealed that most husbands do not know how to cook porridge specifically for children under 1 year. From the wives’ perspective, they explained that a child’s complementary foods such as porridge require special attention in terms of food composition, consistency, fluidity, and cooking temperature. Based on women’s observations, husbands do not follow these cooking principles. Other women claim that men do not follow hygienic rules when handling cooking utensils which may compromise the wellbeing of children through diarrhoea or constipation. One participant drew linkages between unhygienic foods and child health status:

I told my husband to finish cooking the porridge for our children while I went to draw water. When I returned, I found that the porridge was too thick for a child and ashes were all over the pot. I decided to throw away the porridge and start again because the child’s intestines are not strong enough to digest such type of food. From that time, I told him never to cook food for the child because he seems he doesn’t know the consequences of his actions on child’s health (Rhoda, 23, F).

When I was probing research participants as to why husbands do not have such vital childcare skills, respondents attributed this to their family upraising. One husband puts it this way:

When I was young, I was accompanying my father herding animals in the bush. When we turn back, we were either carving hoe handles or maintaining some household structures. I was not allowed to take part in caring for my sibling who was one year by then. That work was left in the hands of my sister who was assisting my mother cooking and taking care of the family. Such division of household chores made me to be competent in my work and incompetent in women’s work (Patulani, 39, M).

This interview shows that socio-cultural structures embedded in family systems perpetrate an unequal participation of childcare roles amongst couples in the research area.
4.4.3 Reasons for men’s greater participation in selected childcare activities

a. Urgent need for child’s medical attention

The results of pile sorting exercises shown in Table 3 indicate that both partners were taking part in escorting sick children to the hospital. According to the experiences of study participants, a number of factors were responsible for such mutual cooperation. Firstly, couples were assisting each other in escorting the child to hospital because of an urgent need for the baby to receive medical attention in time. To understand why this was the case, respondents elaborated that child sickness is not a planned event and can occur at any time. It is worth noting that the research area is about 20 kilometers away from a nearby hospital and poor road networks jeopardize access to such health facilities. If someone falls sick, it is the duty of community members to carry that person to a hospital most often by bicycle or carrying the patient on the back. From this context, the following interview with a mother gives an account for both couples’ involvement in taking the child to the hospital.

My husband always accompanies me to the hospital because our child is older and heavier as such I cannot carry her alone and walk for a long distance without exchanging with someone. The person who is nearby me is my husband and he understands the need to accompany me to the hospital. Sometimes when it is during the night, some friends and relatives also accompany us (Navesi, 33, F).

Another participant expressed her opinion on the theme of couples’ cooperation in escorting the child to the hospital as follows:

Sometimes the child may be critically ill and as a woman, I am afraid to take the child alone to the hospital. I fear that perhaps the baby may faint or die while on my way. Since men are courageous, my husband just fastens the child on his back as if everything is okay and we walk up to the hospital (Tendai, 21, F).

Another respondent explained his opinion for his involvement in escorting the child to the hospital had to do with his role in decision-making:
[Sighing] .....Yes..... But in critical situations, I accompany my wife to the hospital because we are not sure of doctor’s recommendations on our child. Both of us need firsthand information to make an immediate decision. For example, the child may need immediate blood transfusion; our presence means that there are two available blood donors who may save the life (Dala, 42, F).

The quotations clearly indicate that geographical and economic factors limit community members in the research area in accessing immediate health services. To overcome these prohibitive factors, communities have reoriented their socio-cultural perception on the role of the husband in childcare during sickness. Participants explained that people reprimand a husband who neglects a wife, allowing her to go alone to the hospital with a critically ill child.

b. Trade-off “chikolero”

Playing with the children is another childcare activity that both husbands and wives indicated that they did. There are contradictory reasons that family dyads gave for husbands’ involvement. Many husbands stated that they play with their children when they recognize that their wives were busy doing some domestic work like cooking and laundering clothes. On the other hand, wives stated that husbands do not play with children in good faith. They either wanted the wives to hasten with the food preparation so that they may eat in time and go for leisure or that wives should do a task that the husband wants to be accomplished. One woman recounted her experiences as follows:

He plays with a child when he wants me to perform a task that he has instructed me to do so like cooking or laundering; he knows that a child may keep on disturbing me that may delay completion of the work. Deep down my heart, I know that once I finish the work, he will say that “here is your child, I am now tired” (Lizziness, 29, F).

In this case, many women expressed discontent with their husbands’ behaviour of forcing them to perform domestic chores which were not planned for that day. In their remarks, women said that husbands pretend that they are caring and loving by playing with the children while in real sense they are exploiting women’s services.
4.5.1 Housework activities (pre-recipe days)

During in-depth interviews, respondents were asked to sort cards containing housework activities into three categories. The cards were sorted basing on the perceived level of individual’s involvement in a particular activity. Table 4 shows the results that were obtained from the pile sorting exercises which were conducted before recipe day education sessions.

<table>
<thead>
<tr>
<th>Housework activities</th>
<th>Mostly done by wives (% of responses n=60)</th>
<th>Mostly done by husbands(% of responses n=60)</th>
<th>Done almost equally(% of responses n=60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laundry</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Herding livestock</td>
<td>-</td>
<td>60 (100)</td>
<td>-</td>
</tr>
<tr>
<td>Constructing pit latrine</td>
<td>-</td>
<td>60 (100)</td>
<td>-</td>
</tr>
<tr>
<td>Home nursing</td>
<td>10 (17)</td>
<td>-</td>
<td>50 (83)</td>
</tr>
<tr>
<td>Shopping</td>
<td>11 (18)</td>
<td>12 (20)</td>
<td>37 (62)</td>
</tr>
<tr>
<td>Mopping the house</td>
<td>60 (100)</td>
<td>-</td>
<td>47 (70)</td>
</tr>
<tr>
<td>Ironing</td>
<td>-</td>
<td>13 (21)</td>
<td>48 (80)</td>
</tr>
<tr>
<td>Taking care of the surrounding area e.g. sweeping</td>
<td>48 (80)</td>
<td>-</td>
<td>12(20)</td>
</tr>
<tr>
<td>Bed making</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Digging rubbish pit</td>
<td>-</td>
<td>60 (100)</td>
<td>-</td>
</tr>
<tr>
<td>Cooking</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attending home gardens</td>
<td>-</td>
<td>12 (20)</td>
<td>48 (80)</td>
</tr>
<tr>
<td>Pounding maize</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attending livestock</td>
<td>-</td>
<td>19 (31)</td>
<td>41 (68)</td>
</tr>
<tr>
<td>Fetching firewood</td>
<td>60 (100)</td>
<td>-</td>
<td>35 (58)</td>
</tr>
<tr>
<td>Chopping firewood</td>
<td>24 (40)</td>
<td>1 (2)</td>
<td>24 (40)</td>
</tr>
<tr>
<td>Earning money</td>
<td>-</td>
<td>36 (60)</td>
<td>4 (7)</td>
</tr>
<tr>
<td>Going to maize mill</td>
<td>56 (93)</td>
<td>-</td>
<td>42 (70)</td>
</tr>
<tr>
<td>Repairing the house with mud</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fetching food from market</td>
<td>-</td>
<td>18 (30)</td>
<td>-</td>
</tr>
<tr>
<td>Drawing water</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Washing kitchen utensils</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4: Division of housework activities
4.5.2 Perceived reasons for gendered division of housework

As indicated in Table 4, couples indicated that husbands were responsible for herding livestock and maintaining household structures such as the rubbish pit and pit latrine while women were responsible for the majority of domestic work. Research participants gave various biological and social reasons (e.g. strength, conflicting demands, safety) for the gendered division of housework activities as explained in the following sections.

a. Nkhongono “Physical strength”

During the in-depth interviews, all respondents agreed that biologically, men and women have different levels of physical strength. Men are stronger, and better suited to do “hard” manual work than women. One male interviewee explicitly said that “women cannot shovel out soil from the pit when the hole is deeper; it needs more strength so that the soil should not bounce back” (Faluzi, 35, M). Although participants indicated that men were the ones who were constructing pit latrines, after further probing some men indicated that women were also taking part in the work. During one of the interviews, a participant made the following remarks in this regard:

Researcher: …is there anyone who assisted you in sourcing the raw materials that you used in constructing the pit latrine over there?

Vinkhumbo: Yes. My wife is the one who was supplying the water which I used to mould the bricks; she mowed the grasses that I used to thatch its roof and also she smeared the floor before we started using it.

Researcher: Why then were you saying that you are the only one who constructs a pit latrine in your household?

Vinkhumbo: [laughing]…. Actual work is on digging the pit itself. It is where more strength is required. My wife only supports me (Vinkhumbo, 39 M).

This conversation supports the idea that the involvement and contribution of women in some of productive and reproductive housework is not recognized, but rather regarded as ‘assisting their husbands’ (Davies, 2011). Key informants stated that it is the responsibility of women to mow and carry grass used to thatch household structures so that they do not leak during rainy season. Women are also responsible for carrying water
and applying it to the soil whenever there is any house construction, as houses in the research area are made from clay soils which require water to be malleable.

I visited one site where men were moulding bricks and found that women were carrying heavy buckets of water. In my subsequent interviews, I asked respondents to tell me if carrying such big load of water does not require more strength so that the task should be regarded as “masculine work”. Most respondents simply told me that women are used to carrying large buckets of water on their heads, and as such, there is no problem with the current arrangement.

Further observation showed that women were carrying heavy loads of firewood from a forest which was more than five kilometres away from the village. The path to and from the forest was steep and hilly with running rivers and no bridges. On average, women were fetching firewood in this terrain once a week because there were no alternative sources of energy for cooking. One male participant expressed his views on the way he perceives these works in terms of strength and energy spent, as captured below:

I don’t go to dondo “bush” to collect firewood because I feel pain on my head when I carry a bundle of firewood. I try to put on a cushion but it falls within a short period of time. My wife is used to it because she has been collecting firewood since her childhood…. of course the work requires more strength but still women do manage better than men (Richard, 42, M).

In an attempt to understand the meaning of the concept “men’s work requires more strength”, I asked one woman to explain why there is such a division of domestic work based on strength. She explained that:

It is God who assigned men to do “hard work” because he gave them more strength than us women. You can even see for yourself that men can work more hours, carry heavy loads and dig deep holes. That is why they do the work that they know we can have difficulties to accomplish and in exchange they left the simple tasks for us. This is the reason that you find men involved in building houses because the work requires more energy (Nyamphande, 35, F).

I asked a male respondent to choose the work which requires more strength between carrying a bundle of firewood and herding livestock. The participant said that carrying firewood was tedious because it involves walking while carrying heavy load on the head
or shoulder. On the other hand, herding livestock only involves someone walking at a low pace without carrying anything. In this regard, the definition of strength in relation to domestic work is ambiguous and contradictory as some of women’s tasks in the research area require more strength than some of men’s work. Work that is considered ‘tedious’ seems to be associated with femininity, even if it is acknowledged to be hard and require strength. Also if women are raised to be doing a particular task (e.g. carrying water) it is seen as feminine even if it requires strength, yet somehow that strength is not recognized; it remains invisible.

b. Modesty and self-discipline

Three quarters of respondents explained that some of the work that is performed by men is not suitable for women because their manner of dress is not appropriate for such tasks. Research participants mentioned roofing of a house as a task that is suitable for men because they normally wear trousers which do not expose their private parts when they are on the roof. In contrast, women wear dresses which can potentially expose their private parts if they climb the roof. In line with this perspective, a respondent had the following comments:

Researcher: You told me that you don’t know how to construct a roof and that is why you do not take part in such activities. If you can be trained to do so, do you think you can start maintaining the roofs?

Rhoda: What do you mean? Do you want me to be on the roof of the house while men and children are glancing at my private parts on the ground? I expect people to respect me, but if I can be deliberately carrying my private parts in the hands for everyone to see, then how do you think I can save my face? (Rhoda, 39, F).

Respondents confirmed that women can do all household domestic work but their socially ascribed code of dressing prevents them from doing so. This finding came out clearly in one of the interviews when the researcher asked the woman if she would wear a pair of trousers so that she can effectively engage in “male tasks”. The woman explicitly said that:
I am not a prostitute as such I cannot put on trousers. *Dindadinda* (trousers) illustrate your body shape and anyone can easily figure out how you look like when you are naked. Prostitutes wore these to seduce men as it is their mode of advertisement. Hey! My husband can just say “please pack up and go to your parents where they can allow such misbehaviour” (Nafera, 34, F).

Based on these remarks, couples in the study area rationalized that some work is necessary for men and other work for women because individuals are supposed to perform those activities that will maintain their dignity within the community.

c. *Conflicting demands of household work*

Sixty-four percent of research participants indicated that the domestic tasks that are mostly done by husbands are not compatible with women’s daily tasks. Women were reported to have a tight schedule as such they prefer performing those domestic activities that may allow an individual to concurrently attend them. A respondent described her view of why husbands and wives specialize on their daily domestic work as follows:

I do not take part in herding livestock or digging the pit latrine because it is difficult for me to attend to them and at the same time to do other equally important household chores such as cooking or looking after the child. A single task that men do took the entire time and if I can do them then they can distract me from effectively performing multiple tasks at the same time (Nyakhondowe, 36, F).

In line with this theme, a husband who took part in this research explained that his daily work was compatible:

Herding cattle in the bush helps me to get poles and ropes for constructing my household structures. When I am walking in the thickets and see a nice tree, then I do cut it while the animals are freely grazing the grass. Therefore, I am able to kill two birds with one stone unlike if I could be feeding the animals in a kraal (Kalikokha, 25, M).

d. *Safety measures of home-related injuries*

Many respondents explained that safety measures against home related accidents were one of the reasons for the gendered division of housework in the research area. This sub-theme emerged from the perception that much of the domestic work done by
husbands has a higher likelihood of accidents. For example, one respondent explained his experiences regarding the safety of a wife and a child as follows:

My wife is strong enough that she can assist me to dig a pit. The problem is that she can’t do the job when she is pregnant because she may end up miscarrying it as the job is too rigorous. The second reason is that we have a one year old child who may need her attention. The child may be searching her in the kitchen and may end up falling on fire, or he may be going to the well hoping to find his mother there but he may end up falling into the well. If he may know that his mother is working inside the pit, he may fall into it which may lead to his death or serious injury. Basing on these fears, we see it right to exempt the wife in tasks that can cause accidents (Mwenibanda, 31, M).

Another participant concurred with the above respondent that safety of a mother is a prerequisite goal for every household.

We are discouraged by elders to take part in the construction of a roof because it involves climbing and working on the higher structures. Many sharp object such as grasses, woods, and sliced bamboo are used which may accidentally prick us. It may also happen that we may fall down from the roof and get injured which may negatively paralyze all childcare and housework activities. The sickness of a woman has greater consequences on household members unlike the sickness of a husband (Lipato, 24, F).

On the same theme of safety, some participants stated that women are not involved in herding livestock because it involves an individual spending time in the bush, removed from the public. In the grazing fields there are some dangerous animals such as snakes and hyenas which pose a constant threat to lives of herdsmen. Many participants had first-hand experience that they saw as risks posed to women when they are in the bush. The following quotation from one participant explains this view:

I cannot allow my wife to go and herd animals in the bush. There are dangerous animals out there that my wife cannot withstand if they can want to attack her and the livestock. Wild animals like hyenas can wish to hunt the goats but a woman cannot run away quickly from such a danger (Richard, 42, M).

In addition, other respondents explained that women can be victim of rape if they can be allowed to be herding livestock in the bush. This was clearly captured in the following quotation:
I do not involve my wife in herding our cattle because I am afraid that some men who usually smoke Indian hemp can take an advantage of raping her. Sending her to graze the animals is like telling the men that they are free to rape my wife in the bush. To prevent such misfortune, it is better always to put my wife on guard (Leford, 30, M).

Based on multiple participants’ remarks, there was a consensus that women were a more vulnerable group. In addition to threats posed by work, there were also reported cases of drunken men harassing women in the research area. To deal with the situation, women were advised not to walk alone when they were going away from their villages.

e. Gender identity and gender expression

Research participants stated that they do some and not other housework activities because they want to portray and maintain their gendered positions in the households as husbands or wives. One husband stated that culturally a ‘real man’ is the one who makes sure that he has constructed a bathing shelter, toilet, a kitchen and maintains the structure of a house. If he fails to provide these basic amenities to a family, a wife has valid reasons to seek for divorce from the family counselors. The following statement was expressed by a participant in support of the view that a good husband performs particular household duties as a sign of commitment to his wife.

Once a man marries, he must make sure that he provides privacy to his wife. He must offer her with a bathing shelter and a toilet so that she should not go to the river to bath or to the bush as if she is still single. You claim that this is my wife when others do not have a chance to see her womanhood (Dala, 42, M).

Respondents stated that bathing in a river is an expression that you are single. Once a person married, they stop using common facilities because they do not provide privacy. A woman concurred with the above quotation as she said that:
I hope you know that “trade is advertising”, if a husband is not constructing a bathing shelter for you, then it means he wants other men to see your attractiveness at the river. If other men can propose you and the issue is brought before the chief, a husband may lose the case because he has failed to perform his duties of providing privacy (Lizness, 29, F).

To illustrate that construction of household structures assists couples to have a personal sense of marital duty and an external expression of one’s gender identity, a respondent vividly expressed the following views:

I cannot construct a bathroom here at my home while I am a married woman. That can be provoking my husband because he cannot take it. The reason is that people may see that I am now the man in the house. Even his relatives cannot accept as it can be like disgracing them (Rose, 38, F).

Similarly, respondents explained that a “good wife” is the one who takes care of the husband and children at home. She must make sure that she prepares food in time, washes all the clothes and provides warm water for the husband to shower. If a husband goes out while putting on dirty clothes, people rebuke the wife for failing to perform her chores of looking after the husband. To confirm that doing some of the domestic work was a way of expressing that you are a wife in a household, one woman participant explained the following:

During marriage counselling, we are told that “a husband is on a belly, a face does not change” and also that “You must not see a husband on the face but on the belly”. All these advice helps us to know that our duty as wives is to look after our husbands. If a husband is getting thinner after getting married, everybody knows that a wife is failing to accomplish her duties (Rose, 38, F).

The preceding remark shows that to be a wife means assuming the responsibility of taking care of the husband and any household members, and a man’s outward appearance is seen as a reflection of a wife’s fulfillment of these duties. A husband should refrain from such domestic chores so that he may not be seen as a wife in their marital relationships.

\[f. \quad \textit{Gender-specific household resources}\]

All respondents explained that husbands fail to perform some of housework activities because most of household equipment associated with cooking belongs to wives. This is because traditionally household resources are assigned to either a husband or a wife based on who usually uses them. Some equipment such as mortar, pestle, mats,
pots and the kitchen belongs to a wife. She is in control of these items, and in times of family breakup she will take most of them to her home village. On the other hand, bigger and more valuable items such livestock and some household resources such as radios and bicycle belong to a husband. The following quotation illustrates the reasons for gendered division of work with regards to household resources.

My husband does not take part in preparing food because he is not supposed to do so. In our society, once a man gets married, he is supposed to cease preparing food for himself and must hand over all kitchen resources to the wife. If a husband interferes with kitchen operations, he is considered to be a mean husband. The reason is that he is always caught offside by using resources that he is not entitled to use (Mwayi, 29, F).

A husband concurred with other men that they are not responsible for managing kitchen utensils as indicated in the following quotation:

When someone comes to borrow any kitchen utensil and finds out that my wife is away, she does not even bother to tell me why she visited. She just informs me that I need to tell my wife that she was here. When she saw that my wife is back, it is when you learn that the friend borrowed a mat, mortar or a winnower. They know that men are not entitled to these kitchen utensils and it is culturally wrong to ask a husband about them (Luka, 30, M).

This remark shows that the deeply-rooted culturally gendered household resources exacerbate gender inequality in the participation of couples in housework activities.

g. Taboos and beliefs associated with household resources

Some participants explained that it is taboo for a male to use some household resources because it is believed that they may fall sick. Commonly cited utensils were mortar and pestle which are used for grinding foods. Nine husbands explained that they were advised not to use or sit on the mortar ever since they were children. They said that if they use these utensils they would suffer from m’ntongo. This is a disease with the symptom of swelling of testicles in humans. Many husbands were raised with this belief, and as such they do not want to use the mortar in fear of suffering from the disease.

I asked key informants to explain if it is true that if a man sitting on a mortar can suffer from swelling testicles and a reply from one chief was that:
It is a matter of hygiene, you know that most boys put on torn shorts and here in the villages we do not have toilet tissues. When boys sit on a mortar they usually smear stools on it. When a woman is using it, unknowingly she touches the stools which may potentially contaminate the food with germs. The only way is to threaten the boys not to use the utensils by telling them that they are going to fall sick (A Chief, 58, M).

The preceding quotation shows that some of the norms and beliefs that are passed over to young generation in the research area may have a hidden beneficial effect.

Another reported cultural belief that deters men from performing “feminine domestic work” is that they were advised during initiations that a male person who is fond of staying amidst females does not marry. The belief is that such boys are stupid, and if it happens that they marry they are always impotent. This myth is reinforced by women who beat and chase away their male children when they are in the kitchen assisting cooking. In this case, many boys grew up refraining from mixing with women, who mostly spend their time in the kitchen. When such boys marry, they do not have a motivation to work in the kitchen, which reduces their participation in domestic work. I wanted to know more from some research informants such as community elders and chiefs if it is true that men who take part in “feminine domestic work” do not bear children and why women beat up such boys when they want to assist them. One elder remarked that:

Old people were more intelligent than the present generation; you told us the other time that you grew up in the village. Then you must know that when women are in the kitchen cooking they are so busy to the extent that a wrapper that they wore may slip off without even recognizing. Because this happens often, it is only logical to prevent boys from entering the kitchen to avoid them from seeing their mothers. But you cannot say this to the children. This is local knowledge involving sexual privacy and women are justified to beat these boys (Village elder, 72, M).

Basing on participants’ views, there is a need to understand the local context for the gendered division of domestic work. It is not simply a matter of encouraging boys and men to take part in domestic work but there is a need to come up with alternative ways in which women may dress in the kitchen or ways to modify the kitchen set-up so that boys may also participate.
h. **Khuzumure “Love charm”**

In all the interviews, there was a general consensus that some wives feed their husbands love charms known as *khuzumure* to keep the husbands around their homes. The love potion is made by mixing the tail of a lizard with other herbs which are then concealed in food that is given to the husband (Morris, 1998). The common characteristics of a husband who is under the spell of *khuzumure* includes spending more hours at home, actively taking part in household chores, and consulting his wife before making any decisions. In most cases, husbands reported that they were mindful of their household roles so that they should not be categorized as being under the spell of love potion. In one of the interviews, the respondent gives a picture on how *khuzumure* is perceived in the study area:

*Interviewer: What do you and other people think of those couples who perform domestic work together as a family?*

*Interviewee: There are different reactions from people. Some just appreciate that the partners love each other. But most people mock the wife for using the herbs to tame her husband. Once the husband starts to behave and act abnormally many people start thinking that a wife has done something to her husband which in most cases is *khuzumure* (Faluzi, 35, M).*

The above interview shows that the myth associating *love potion* with husband’s involvement in traditional “feminine domestic chores” perpetuates unequal involvement of couples in household activities. The significance of love potions was supported by the remarks made by one woman: “I always make sure that my husband does what other men do in this community. I don’t want his relatives to blame me that I have killed him with charms” (Rose 38 F). According to the participants, a husband who spent most time at home or involved himself in “feminine domestic work” is dubbed a dead man because he is not conscious of his actions.

i. **Gendered spaces**

Some research participants stated that they do not take part in some of housework activities because these activities took place in gendered segregated spaces. It is
traditionally known that pounding spaces “pamntondo” and water collection points “kudambo” belong to women while kuwalo belongs to men. Such places are secluded from the opposite sex group because they act as gender-specific informal education institutions. One respondent stated that when women are at pamntondo, they share ways in which they can take care of their families and they counsel each other in case one is finding problems with her marriage. It is therefore inappropriate that husbands should be occupying such spaces because they may disrupt these intimate discussions. In addition, some participants stated that these gendered spaces act as an ongoing initiation venues where young ones receive advice from elders. One participant explained that:

It is from such type of gatherings that elders feel free to talk to young and adolescents girls about their bodies using straight talk that are considered a taboo in ordinary public spheres. If people can encourage men to intrude in such housework activities, they can cripple the traditional education systems which are there to educate and impart local knowledge and skills to the current generation (Mwangulu, 39, M).

Respondents attributed the escalating immoral behaviour of the current generation of girls and boys to a breakdown of gendered spaces which has resulted to high incidences of early pregnancies and the spread of HIV/AIDS. It is therefore important that alternative gendered spaces be put in place to pass on positive traditional knowledge and values to younger generations while promoting the opposite sex to carry out tasks and access some of the skills that are fostered in those gatherings.

Some respondents also expressed concern that if men can intrude into women’s traditional spheres, then they can obstruct the freedom of expression which is customarily granted to women. The following remark represents this view:

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1 Pamntondo is a communal place in Malawi where women and girls gather to pound food such as maize and rice using mortar and pestles.

2 A communal place where men and boys gather in the village and in most cases fire is set to provide warmth.
Our culture expects us [wives] to be submissive to our husbands in the families. We do not question or argue with our husbands because they are leaders of the families. The only places that we express our views and concerns to the husbands without fear are at pamntondo and kudambo. As we are pounding or carrying the water, we do sing songs aloud expressing our grievances and negotiating our oppressed position in the families (Chifuniro, 31, F).

Another man concurred with the preceding view by saying that:

Culturally a husband is not supposed to ask or argue with his wife about the message that was conveyed through a song at pamntondo even if it is obvious that the message was targeting him. Any husband who harasses or beats his wife based on stories that emerged from such secluded spaces is fined heavily by the village elders. Such types of husbands are considered to have encroached into women’s territories (Rose, 38, M).

In this case, respondents explained that if men can be involved in some of domestic activities that are specifically done by women, then it will be difficult to find other avenues that women can openly express their views to their husbands and the society at large.

j. Family organization

Some respondents explained that traditional family arrangements in the research area perpetuate gender inequality between husbands and wives. A cause of this is thought to be the lack of formal age limit that children are deemed legally independent from their parents. One respondent stated that boys are treated more as children, as they are exempted from domestic chores unlike their sisters. Parents feed and provide basic needs to boys even if they are old enough to look after themselves. The responsibility of taking care of male child only changes from the boy’s mother and sisters when the boy gets married and the wife assumes these duties. In this case, there is no stage of human development in which men in the research area stay alone, and are therefore not provided the opportunity to develop independent housework skills. Therefore, low participation of men in domestic work is rooted in the family structure that places the majority of domestic work on women.

In addition, some respondents stated that virilocal family structures with various levels of social relations contribute to gender inequality in childcare and housework
activities. It is a taboo amongst the Ngoni for a father in-law to come close to *Mkamwali* “daughter in-law”. In most cases, the *Akamwali* spent most of their time at the kitchen performing housework activities as it is their social obligation. To avoid physical contact with those that need special respect, husbands and boys spent most of their time at *kuwalo* while women are confined to the kitchen. This theme was confirmed during the recipe day education session where men requested that daughter in-laws should step aside for a while so that they can give them and their wives a chance to practice making soy milk as shown in Figure 6.

![Figure 6: Chiefs and elders preparing soy milk (Source: E. Chilanga, 2012)](image)

There is a need to investigate how gender equality in domestic work can be promoted while maintaining the traditional family structures where respect is of paramount importance.

### 4.6 Child feeding practices

#### 4.6.1 Dietary diversity and complementary foods

Dietary diversity is the number of different foods or food groups consumed by an individual over a given period of time (Ruel, 2003). It is used as an indirect measure for assessing the quantity and quality of food nutrients eaten by an individual. Complementary food refers to any appropriate food given to young children once breast-milk alone can no longer meet a child’s growing nutritional needs for healthy
development (Dewey & Adu-Afarwuah, 2008). Data for understanding dietary diversity and complementary foods was necessary before and after the recipe education in order to compare the foods that were given to children in the two research periods.

Parents were asked to state all the foods that they served their children on the previous day of the interview (24-hour food recall). For generalization purposes, participants were also asked to list the common foods that they fed their children in the past three days. Key informants, the research assistant and I were also observing the type of foods that couples were feeding their children during informal participant observation routines that were taking place in the area. The following table indicates the commonly stated foods that children aged 6 months to 3 years were consuming with an approximate eating frequency in three days.

<table>
<thead>
<tr>
<th>Name of food</th>
<th>Average consumption/servings in 3 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy porridge</td>
<td>2</td>
</tr>
<tr>
<td>Groundnuts porridge</td>
<td>1</td>
</tr>
<tr>
<td>Whole grain maize flour porridge</td>
<td>0</td>
</tr>
<tr>
<td>Watery refined white flour porridge</td>
<td>6</td>
</tr>
<tr>
<td>White maize flour nsima</td>
<td>6</td>
</tr>
<tr>
<td>Fish</td>
<td>0</td>
</tr>
<tr>
<td>Meat</td>
<td>0</td>
</tr>
<tr>
<td>Eggs</td>
<td>1</td>
</tr>
<tr>
<td>Beans</td>
<td>1</td>
</tr>
<tr>
<td>Peas</td>
<td>0</td>
</tr>
<tr>
<td>Green Leafy Vegetables</td>
<td>6</td>
</tr>
<tr>
<td>Fruits</td>
<td>3</td>
</tr>
<tr>
<td>Boiled sweet potatoes</td>
<td>1</td>
</tr>
<tr>
<td>Cassava</td>
<td>0</td>
</tr>
<tr>
<td>Roasted groundnuts</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 5: Complementary foods and frequency of children’s food intake (n=30)
4.7 Common foods and estimated consumption frequency amongst children under 3 years

a. Nsima

As indicated in the table above, white flour nsima was the common food that children were eating twice a day. White nsima is a thick, boiled, porridge-like dish made from pounded corn kernel with its bran and germ removed. The remaining endosperm are soaked in water for more than two days, dried and milled into flour. In this case, most of essential food nutrients such as minerals and vitamins are lost during the food processing, and what remains are carbohydrates which supply the body with energy (Hotz & Gibson, 2004; Kalimbira et al., 2009). In this case, there is a need to feed children other foods that are processed differently to compensate for the lost nutrients in nsima.

b. Green vegetables

Participants indicated that nsima that was fed to children was mostly served with green vegetables as relish. The boiled vegetables were usually seasoned with whole groundnuts flour. Groundnuts contain essential food nutrients like calcium, proteins, vitamins, fat, iron and magnesium (Karley & White, 2009). The presence of fats in groundnuts assists in dissolving fat soluble vitamins in vegetables such as Vitamin A, D, E and K which could otherwise not absorbed during digestion process (Opoku-Boahen, Apanyin, Novick & Wubah, 2012).

c. Soybean, groundnuts and watery porridge

Soy porridge, groundnuts porridge and watery porridge were indicated to be the common food for young children. On average, participants stated that they fed their children soy porridge twice in three days. Foods made from whole soybean contain proteins equivalent to animal products such as eggs and milk (Michelfelder, 2009; Soroka, Silverberg, Greenland & Peer, 1998). As indicated in the table, many children in the research area do not consume animal products; therefore, soy porridge is likely to be a good substitute. To increase the consumption of soybean products amongst children there is a need to find other ways of preparing the foods with soy components apart from porridge. The initiative can reduce monotonous consumption of soy porridge amongst
children that negatively affect food preferences (Kramer, Lesher & Meiselman, 2001). In addition, respondents stated that children were consuming groundnuts porridge once in three days, and drinking watery white refined flour porridge twice a day.

d. Snacks and other foods

During the first phase of this research, I learned that children were provided with different snacks like fruits, boiled sweet potatoes, roasted groundnuts and roasted sweet potato in between meals. Such dietary diversity was attributed to the harvesting period in which the research was taking place. Research participants also indicated that they feed their children foods like beans, peas, eggs and ground beans. These foods are important because they contain various essential nutrients for child growth and development. As seen in the table, these foods are consumed in small quantities and couples could be encouraged to increase providing them to children.

4.6.2 Food preparation methods

Research participants were asked to describe how they were preparing and cooking the different types of foods they were feeding young children. This was done to gain insight on the various techniques being used, as each method has its strengths and limitations with regard to preserving food nutrients and gender division of labour (Fillion, & Henry, 1998). There was a general consensus that the boiling method of cooking was the most common food preparation technique. Although this method was the most common cooking technique in the area, research shows that this method is also responsible for more loss in food nutrients than frying or baking techniques (Farhat, & Fossian, 2010). In most cases, participants attributed economic factors as being responsible for high utilization of the boiling method of cooking:

This cooking method [boiling] is cheap because it does not require commercial ingredients and utensils which are expensive on the market. We cannot afford to buy a bottle of cooking oil nowadays as our household economy is so bad. Of course I know that foods that have been added in cooking oil are palatable and everyone likes it (Luka, 30, M).

Apart from being economical, some participants explained that the boiling method does not require technical cooking skills:
The boiling method of cooking is simple and can be used by any person unlike baking or frying. You just pour little water in a pot, add some salt, put it on fire and then you add whatever food you have. You keep on turning it until it is cooked. But baking is so involving, it needs someone to know the right amount of soda, the standard mixture of ingredients and the correct level of heat (Agness, 31, F).

Roasting was the second most common food preparation method that research participants described. In most cases, foods like sweet potato, groundnuts and dry maize were roasted and eaten as a form of snacks in between meals. The common usage of roasting method was attributed to its time savings:

When we are hungry, we need something that can be prepared and eaten instantly. In this case, we turn to roasting method whereby groundnuts can be cooked within five minutes. Even if a child is crying of hunger, you assure him/her that food will be ready soon (NyaGondwe, 32, F).

Based on the respondents’, comments frying, steaming and baking methods of cooking are underutilized in the research area. The inclusion of these cooking skills can assist children to eat the local foods which have been prepared differently and hence increase food preferences. In addition, such a strategy can help to compensate for loss of food nutrients associated with a particular cooking technique (Fillion & Henry, 1998).

4.8 Household decision making

To assess the autonomy of women in the households with a goal of understanding wives’ bargaining power relative to husbands, research participants were asked to explain how they make decisions (Rahman et al., 2005). The following section discusses ways in which couples in the study area reported making decisions.

4.8.1 Decision making relating to household finances

Household economics, involving the decisions of couples in the allocation of scarce resources for various household demands, are the focus of this section. Since the research was conducted in an agrarian community, much of the focus was on how family dyads make decisions regarding the utilization of household finances and farm produce. The majority of the participants stated that husbands had more power than wives in terms of financial affairs. One of the participants stated that:
Once we have harvested the crops, my husband is the one who makes decisions such as when and how much we should sell and keep. In most cases, he just informs me that we should sell some crops in order that he can have money to buy soap, sugar and to pay some bills. If I try to disagree with him because sometimes he sells maize while quite aware that we do not have enough food in the house to last the whole season, he usually threatens me that if I am not obeying him, then it is better that we should separate. Knowing that I took part in growing the food in his home village and any decision to divorce me can result to my loss of the foods then I just remain quiet (Nyakaluwa, 41, F).

This preceding view was supported by another respondent who said that:

Women do not marry but they get married as such they depend on a husband for whatever they want. Since they are under husbands, they do not have power to make household decisions relating to economic affairs. If she wants something, she must report to me (husband) and as a man, I make my plans to provide her with what she is seeking. If I see that what she is demanding is useless then I just ignore her. You know that most wives want to copy what other women are doing in their families and it is a duty of a husband to resist some of such demands (Augustine, 46, M).

The majority of women reported having less bargaining power and they were not able to set their own goals and implement them. Other participants explained that because women do not have negotiating power in the household, many of them resort to stealing of farm crops that they sell or exchange with other women for basic household items. The following participant explained how women secretly selling groundnuts and maize in the households were related to their poor bargaining power:

Because husbands do not give us a chance to take part in deciding what to do with the crops or giving us power to keep the money, what we do is that when we want to buy something, we wait for him to go away. We take the yields that we think will be enough for what we want and sell them to vendors. When he sees fish in the plate during dinner, I just inform him that our family friend gave us the fish. He cannot dispute because he does not know what is in the kitchen (Nafera, 34, F).

Husbands were also reported to be in the habit of selling farm produce without consulting the wife and using the money to purchase beer. This was the reason that many women resorted to secretly selling farm produce, so that they can buy basic household needs such as salt, soap and some foods which husbands were not prioritizing after selling the farm yields.
In an attempt to save some farm produce from the mismanagement of husbands; many women reported devising an action plan. They were secretly asking their mothers-in-law or elder women in the nearby compound to keep the crops for them. The stored produce was hidden from their husbands with an aim of using them as seeds in the following growing season. It was reported that grandmothers were able to keep the seeds until the onset of rain season. To return the crops back to the family, elders pretend to offer the seeds to the daughter-in-law to plant on behalf of her grandchildren. In such a way, the husband’s controlling power of the seeds was reduced. The following respondent stated her experiences with regards to saving of crop seeds:

Sometimes my husband misuses the farm produce to the extent that he sells even the seeds for the next growing season. I know him quite well that when he wants some money, he does everything possible to find the market for the crops and I do not have power to stop him from doing this. My duty is to save some of the crops to be used as seeds in the next growing season. I secretly pour some groundnuts or soy beans in the pail and pretend I’m going to the well while in actual sense I am going to store them at my mother-in-law. This is the way I protect some crops without quarreling with my husband (Rose, 38, F).

4.8.2 Decision making on children’s foods

Research participants stated that they do not regularly discuss with their partners the foods that their child is going to eat the next day because wives are the ones who have the responsibility of looking after the children. One mother respondent posed this question to an interviewer; “Can you ask a husband, what you are going to feed the child while you are aware that it is not his responsibility?” (Ethel, 25, F). All respondents agreed that husbands do not know the quantity of flour, relish, water, firewood, and salt in their households, because they do not physically check or verify the amounts of these household resources. One respondent explained that:
I don’t discuss with my wife what she is going to feed the child because most of the foods are locally grown. She can decide and choose whatever she wants to feed the child. We have so many potatoes, groundnuts, pumpkin, soy beans and maize. Thinking of what the child is going to eat happens in towns where husbands every morning leave behind money for the wife to buy foods for themselves and the child (Happy, 38, M).

Research participants unanimously agreed that it is only when the wives need some money to purchase or process foods that is when they request their husbands to release funds or authorize selling farm produce.

There are some food ingredients such as salt and sugar which we have to buy from the market. In that case, I do tell my husband that we are running short of such items and we need to decide how we can get the money to purchase them. He may either say he has some money and he may give me at once or if he does not have, he usually suggests selling some maize so that I can buy the needed items (Ruth, 27, F).

This view was agreed upon by a husband who said that:

Traditionally a wife is the eye of the family; she is responsible for making sure that all basic needs are available at the household. She checks out if there are firewood, water, food and salt for the survival of the household. It is her duty to replace the depleted resources that are locally available but if she cannot manage some of them, especially those that needs money, then she reports to me. I, as the head of the family do decide what to do and give her feedback (Kaliza, 23, M).

In summary, participants explained that they do not see any reason for couples to discuss children’s foods because childcare activities are regarded as work for the women. Husbands only intervene when there is a need to hand over money so that the wife may use it for the operation of the kitchen.

4.8.3 Knowledge of child nutrition

Research participants agreed that women have greater knowledge of childcare and nutrition than their husbands. There were three reasons for such gender inequality in the knowledge of child nutrition. The first was that when women are pregnant, they attend antenatal clinics where they are counselled about the proper foods for themselves and their unborn babies. Secondly, participants attributed the disparity to the availability of monthly mobile primary health care service known as “under-five clinics” which most women attend.
I know the type of food to feed my children because I learn this at under-five clinics. It is important that every mother should attend the under-five clinics because it is where government health surveillance checks the growth of the children. If the child is not growing properly, they inform you the type of foods to feed the baby. Men do not attend these lessons because they mostly talk of domestic work which mostly does not involve them (Judith, 28, F).

Husbands indicated that they do not attend the under-five clinics lessons because the clinics target women and in some cases men felt disrespected by the approach taken. One participant said that:

I can’t go there because they treat participants as Standard one children. I cannot sit down with all these beards in my chin singing those silly songs. It is only an imbecilic man who can mix with women and freely start contributing to topics of child spacing amidst his mother in-laws and other elder women. Topics of sex are embarrassing especially when they are people that deserve respect from you (Yohane, 37, M).

I attended two of the under-five lessons in the area. In both days, there were only two men who were part of village health committee volunteers who were assisting health personnel in weighing the children. All the lessons were orally presented without any models or teaching resources. In addition, there were no practical sessions that mothers could practice preparing the foods that were promoted.

Finally, participants credited high knowledge of child nutrition amongst mothers to the effort that elder women and mother in-laws impart to the young mothers in the area.

When you have given birth to a child, mother in-laws and Azamba [elder women] always attend to you and the child for the whole week. They routinely advise us about the type of foods that we are supposed to feed the child at a particular stage of child development. They even demonstrate how to prepare such type of foods such as Mzuwala and show how to feed the child. All these time, husbands are not invited as such they don’t know anything about child foods (Nyankhata, 22, F).

In summary, respondents explained that, culturally, when a woman is pregnant, a husband is excluded from all traditional practices involving child bearing. It is the duty of Azamba to assist the mother to give birth and it is a taboo for a man to see a wife giving birth to a child. Such exclusion continues because mothers-in-law spend almost a month in the household taking care of the mother and the child. Women’s monopoly over the
care of newly born children does not motivate fathers to take a leading role on children’s health.

4.8.4 Perceived household gender (in) equality

Couples were asked to explain what they thought about the way they participate in childcare and housework activities, in order to understand if couples perceive that there is an equal or unequal division of domestic work in their households. Throughout the pre-recipe interviews, husbands were surprised to find out that there were no childcare activities that they were doing more than their wives. The following quotation highlights one of the participants who looked unsatisfied with pile sorting results:

*Laughing...* I don’t have any card on my category to show what I do most. You people you are so clever! You deliberately use the cards so that I should not know in advance that there is no card for me which can make me to lie. I have only known the results after finishing sorting. Can it be possible that I should re-sort the cards so that I can pay more attention? (Jere, 29, M)

Although the results of pile sorting exercise were clear that husbands were doing very little domestic work, participants had different views on the perceived equality:

It is just okay! I don’t see any problem with this division of domestic work. Women are used to these work and they don’t feel good if they just stay idle. In addition, let them maintain their work to avoid introducing quarrels in the households. You know when women hear about *jenda* from these gender people [*gender activists*], they become rude and whatever you ask them to do for you they turn it down by saying that; “*There is jenda nowadays, so you can also do it*” (Tembo, 34, M).

On the other hand, many women were dissatisfied with their husbands’ level of involvement in domestic chores but they were afraid to negotiate because they feared that their spouses would divorce them. A wife said that:

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3 In Malawi the term ‘gender activists’ refers to groups or individuals that promotes gender equality (Semu, 2002).
I know that I spent all day long doing domestic work while my husband has lots of time gallivanting around. Unfortunately, I cannot change the situation because it is something we have grown up with from our mothers’ homes. When I was young, I could see how she was doing her day today activities while dad was just listening to the radio or playing bawo with friends. My mother was not complaining about this. You know that everyone says that this is our work because men marry us with an aim that we should take care of them (Lute, 37, F).

Many participants concurred with her views by saying that even if women wish to bargain with their husbands to take a greater part in domestic work, this cannot be successful because there are elders who make sure that customs and traditions are respected. For example, a husband stated that:

After learning that my wife was expecting and was always groaning during the night because she was over working, out of pity, I started to assist her. But onlookers send a message to her parents who in return recalled my wife [to their home]. They strongly reprimanded her that she is shaming them as if she was not advised of her roles before. On return, she furiously told me that I should stop taking part in her work so that she should have peace of mind. I respected her opinion and now we are living happily (Levison, 26, M).

Participants also highlighted that it is part of Ngoni tradition that if a wife is sick, her parents should send her sibling or any female relative to take on the domestic roles from her. This arrangement aims at saving the husband from doing domestic work. This point was explained by the following respondent:

I know that I do very little household chores compared to my wife. This is one of the reasons that I married her. When she is sick, her parents feel sorry about me knowing that I will have to care for the children and do all other housework. To save my face in the community, they always send her young sister to look after all of us until my wife becomes better (Kwenda, 43, M).

In this context, participants knew that women do far more domestic work than men but their justification was that being a wife means doing such types of work. Even those couples who were willing to assist each other stated that social-cultural community structures are too rigid to do so.

4.8.5 Perceived relationship between gender inequality and child health status

Participants were asked to explain if they think that their division of domestic work in the households may affect health status of the children. Ninety-three percent of
the respondents stated that they do not see any association between the two, and gave various reasons to support their argument.

There is not any link between the division of domestic work amongst us and child health in our household. My wife is so dedicated in her work; she makes sure that the child has enough food, clean clothes and dry beddings. This support for the child is adequate, it cannot make our baby to fall ill (Mwenibanda, 31, M).

Another participant stated that:

Our children mostly suffer from malaria, coughs, opening bowels, skin rashes and before this project (SFHC) malnutrition. I have never been informed by any doctor or elders that my child is suffering because of jenda. Perhaps you could talk of tsembho that a child suffers when a man sleeps with other women while the child is still young. I hope you did not find a better way of asking this question. Anyone can be laughing if she or he can hear that jenda can cause child diseases….laughing (Mercy, 29, F).

Conversely, four out of sixty respondents stated that they know that there is a relationship between household gender (in) equality and child health. One of them explained that:

When my wife has gone away leaving the child behind, I still wait for her to come and cook nsima for all of us. If she is late, then the first person to suffer with hunger is the child. If this can be happening quite often, then the child can start developing malnutrition. This scenario can be prevented if I were taking part in cooking food for the family as a child can be still eating even if the wife is away (Happy, 38, M).

Another respondent agreed with this point and he talked from a different perspective:

I do not know how child’s porridge is prepared. I am afraid that I can make it too thick which may result to a child suffocating during feeding. To avoid this, I only wait for my wife to come back home and cook for the baby. I know that this strategy is not effective because sometimes the child spends more hours without eating food which can make her to be undernourished (Banda, 38, M).

A female interviewee noted:
I don’t understand my husband. He sees that you have left the house early in the morning and you will be back at night. When you went to the bedroom you find that child’s beddings are still there wet with urine. I have to find another bed sheet for the child which usually is not warm enough. During such times, I feel worried that my child may catch pneumonia. If my husband was eager to assist me in such work, then I cannot be worried that my child can get sick (Mercy, 29, F).

Despite few respondents observing ways in which the lack of male involvement in household tasks and child care had impacts on child health, nonetheless the majority of participants did not recognize this link. Therefore there is a need for proper ways in which couples may be informed about this relationship (Osmani & Sen, 2003).

4.8.6 Household conflict management and resolution

Participants were asked to explain if they encounter conflicts arising from the way couples participate in domestic work. Eighty percent of them stated that they do not have disagreements with their partners because they each have their own specific domestic chores. One respondent explicitly stated his opinion with regard to this:

How can we quarrel over domestic work while there is a clear line that demarcates our roles in domestic work? If you intrude in someone’s category then everyone can know and reprimand you. My wife cannot even attempt to herd the cattle because she can be asked by people about my well being. Even I myself, if I can try to carry water from the well to my home, everyone can ask me if my wife is sick or there is something wrong with her (Nduzaani, 26, M).

A female interviewee stated that:

We quarrel on other issues but not on the participation of domestic work. I have my work and my husband has also his work. The only thing that causes us to quarrel is that my husband most of the time comes late from wherever he went. He does not mind about his time to take the ARV drugs and I am afraid that he may keep on giving me the viruses. I heard from other people that he has got a concubine at the trading centre which makes me angry …. [The respondent became sad] (Lute, 37, F).

On the other hand, some respondents stated that they have sporadic misunderstandings that arose from the division of domestic work.
One time my wife asked me to take the child to the under-five clinic because she told me that she was not feeling quite well. I denied saying that I cannot do that because I do not even know where I will start from. Perhaps she wanted to test me if I can start doing *jenda* because these are the things that women discuss when they are chatting. She was angry but later she asked some of her friends who were also going to the same clinic to take the child on her behalf (Mavuto, 37, M).

Although conflicts are inevitable in the households amongst couples, participants attributed low levels of domestic quarrels about household tasks to a clear distinction in the division of domestic work amongst family dyads.

**PART 2: Intervention**

4.9 *Recipe day education sessions (intervention)*

Recipe days are the community based participatory nutrition education sessions that were strategically organized in three villages in the research area. The education sessions brought together people of diverse members of the community such as chiefs, elders, mothers, fathers, youths and children. The following table illustrates the total number of participants.
<table>
<thead>
<tr>
<th>Area</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village X</td>
<td>4-10</td>
<td>12</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>11-20</td>
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<td>36</td>
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<td></td>
<td>31-45</td>
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<td>46+</td>
<td>7</td>
<td>9</td>
<td>16</td>
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<td>Village Y</td>
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<td>12</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Grand Total</td>
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<td>328</td>
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</tbody>
</table>

Table 6: Number of recipe day participants by age range

In addition, during all the sessions, there were three administrators from the SFHC project office, five community promoters, two Canadian graduate students and one Danish volunteer under Ekwendeni HIV/AIDS project. It was recorded that 43 community members attended all the sessions, 82 attended two sessions and 203 attended only one session.

4.9.1 Organization of recipe days

A week prior to the education sessions, community members were informed by the community promoters and FRT members to get prepared for the days. During the education sessions, participants brought raw soy beans, cassava, sorghum, sweet potatoes, vegetables, beans, groundnuts, eggs, onions and tomatoes. The SFHC office provided cooking oil and salt that according to FRT members, participants were unable to supply.
Different cooking utensils were used including *mphasa* (reed mat), mortars, pestles, buckets, firewood, clay and metal pots, cooking sticks, sifter, wooden stick, winnower and axes. Most of these household resources were categorised as ‘feminine utensils” by research participants during the first phase of the study.

At the beginning of each education session, the leader of the community promoters explained that the main objective of the gathering was to discuss ways to improve the nutritional status of children in the area. Efforts were focused on children under five years of age who are vulnerable to malnutrition. The SFHC officer concurred with him justifying the rationale of the meeting by saying that:

> We want to discuss about complementary foods that are given to children starting at 6 months of age. I hope you know that the foods should be given regularly in right amounts, with proper consistency, and with various foods to cover all required 6 food groups. We are also going to discuss and demonstrate hygienic practices that should be followed when preparing foods in our households. All of us regardless of gender should take part so that together we can reduce stunting and low weight amongst our children that mostly occur between 6 to 24 months of age (SFHC Officer, 40s, M).

A female community promoter emphasized that bumper crops harvested in that season do not necessarily mean that all children will be adequately nourished. She went on to say that there is more to child nutrition than what they currently practise, and that it is important to discuss and practise new ideas so that families may maximize the utilization of farm produce. Participants debated specific areas that couples and community members can jointly work together to promote child nutrition. The first identified area was that all couples should develop additional preparation skills for different dishes made from locally grown crops. They also discussed time management, as participants stated that they do not have time to look after children because most of the times they work in the fields. Others stated that gendered division of domestic work also contributes to underutilization of crop yields as most housework is done by women at home.

After introductions, participants began to collect firewood, water, and setting three stone fireplaces. Afterwards, different dishes such as soy milk, porridge made from sorghum, banana *futali*, sweet potato *futali*, vegetable egg balls, mashed bean balls, soy
flour, cassava crisps, and sorghum doughnuts were prepared. All participants (including chiefs, church leaders and village elders) had a very high rate of participation. They were pounding, sieving, drying soya, fetching firewood, setting fire place and cooking different dishes as shown in Figure 7. Most of these activities are normally done by women according to the pre-recipe day interview results.

Figure 7: Men drying soy beans (Source: E. Chilanga, 2012)

4.9.2 Sensory evaluation of prepared foods

According to Pollard, Kilk & Cade, (2002), sensory elements are significant in determining eating behaviour. The properties of foods such as taste, texture, quality, smell and appearance play a significant role in whether a person will choose to eat a dish or not. To determine if the foods prepared in the sessions were preferred by the participants, FRT members were responsible for sharing the dishes with everyone who was present. Community members were requested to rank the food according to their preferences. In an ascending order, sorghum porridge was voted as the best dish of the day, then bean balls, sweet potato futali, soy milk, cassava crisps, sorghum doughnuts, vegetable egg balls and lastly soy tea. In general, all the foods were accepted by the participants because
they were not very alien as the ingredients were from their own home grown crops. Figure 8 shows research participants tasting the prepared foods:

![Recipe day participants tasting the food](image)

**Figure 8: Recipe day participants tasting the food (Source: E. Chilanga, 2012)**

### 4.9.3 Stakeholders’ remarks

During a speech, a senior chief who was present at all functions encouraged participants to understand the objectives of the recipe days. He hinted at the need for participants especially couples to assist each other in domestic work and childcare practices. He advised couples, especially husbands, to refrain from referring to culture as a dissuading factor from participating in domestic work. He concluded by saying that the presence and involvement of chiefs and elders in recipe day activities was evidence that they have welcomed these new ideas. He assured organizers that chiefs and elders will take a leading role in performing domestic work, providing an example that young couples would want to emulate. Participants agreed that they will desist from castigating husbands who participate in household chores because they now understood the important roles that men can play towards child nutrition.

During all the nutrition education sessions, I was interviewing some participants to obtain their views about what they were observing and doing. The following statements
show the amazement of participants in seeing chiefs, elders and men performing “feminine domestic work” at a public place:

I am glad that my husband is here. He is the one over there sieving soy milk amongst men and women. I hope from now onwards, I will not be afraid to request him to assist me in performing some domestic chores. In the past, he couldn’t accept to handle a pestle as he is doing there. This education has indeed set the context where we can now bargain with our husband by justifying that it is for the good of our children and you also did it at a public place (Nyankhata, 22, F).

In agreement to this statement, another participant explained that:

This is my first time to be involved in an education that discusses about gender, child nutrition and food preparation. If all the education were designed in such a way, I hope all people could by now understand the meaning and importance of jenda in the households. The problem with other approaches is that only women are called to learn about jenda forgetting that it is an issue of men and women. Secondly, whenever we attend some meetings or listen to the radio, gender activists always threaten us that if we abuse our wives we will be prosecuted. I think that they must teach us the importance of jenda from different viewpoints first before referring to legal threats as you have done today (Luka, 32, M).

At the very end of the recipe day session, chiefs and participants agreed to conduct their own educational recipe day on 20 August, 2012. Community promoters and SFHC Officers were invited to act as observers during this session so that they could appreciate the lessons that have been adopted in the area.

PART 3: Post-recipe day interviews

4.9.4 Perceived objectives of recipe days (Post-recipe days interviews)

After two weeks of recipe day education, follow-up interviews were conducted with the 30 couples who participated in pre-recipe day interviews and were also involved in recipe day education sessions. The interviews started with asking participants to explain the objectives of the nutrition education session. Of all the sixty participants that were interviewed, 95% of them were able to explain the objectives of the education. The following interview excerpts show different perspectives about the objectives of recipe days:
The aim of recipe days was that we need to understand about gender equality in the households. We were encouraged by the promoters to assist each other as couples in performing different domestic work. The cooperation can help us to perform all necessary domestic chores in time. If husbands can be involved in domestic work then we can have more time to look after our children properly which can promote their nutritional status (Mable, 34, F).

In this interview, a respondent viewed the issue of gender equality as the main goal of the nutrition education that she attended. Conversely, some interviewees saw the objectives of these sessions as primarily nutritional:

The main aim of recipe days was that we need to learn proper ways of preparing foods from the crops that we do grow ourselves. We must have a diversity of dishes which are delicious and nutritious as those eaten in town (Happy, 38, M).

The seven participants who were unable to explain the objectives of recipe days stated that they were late in attending the lessons because they heard about it the same day. Poor communication was also noted by the chiefs during their speech who said that many people did not attend the lessons because of a communication breakdown about the event between the SFHC office and the participants.

4.9.5 Fostered knowledge and skills

Research participants were asked to explain any new ideas or skills that they gained during the nutrition education sessions. Almost all respondents stated that they learnt soy milk processing techniques, cooking sorghum porridge, bean balls, sorghum doughnuts, soy-doughnuts, egg-vegetable balls, soy tea drink, cassava crisps, sweet potato and banana futali as shown in Figure 9 a and b below:
4.11 Application of recipe day nutrition knowledge and skills in the households

4.11.1 Embraced dishes

Research participants were asked to explain if they were currently utilizing any skills and knowledge that they gained in the nutrition education session. Twenty-three couples reported that they were preparing soy milk twice in a week. The soy milk was mostly added to Mzuwala, and soy porridge. Participants raised a concern that they were failing to store the soy milk to be used the following morning because the milk was getting thicker. The following remarks underpin this observation:

The first time that we prepared soy milk in our household, we used part of it and we kept the other to be used the next day. The following morning we were amazed to find that the milk was so thick and we did not boil it because we were afraid that perhaps if we may feed our child she may end up getting sick. You did not tell us that this is what happens when the milk is left for overnight (Richard, 42, M).

Another participant explained that:
Since we do spend more hours preparing soy milk but we can’t keep for the next day, I hope it is important that we need to find local ways of preserving the milk. If that can be possible, then we and our children can be eating milk porridge every day which can nourish our bodies (Brenda, 32, F).

It is important to note that participants in the research area do not have the economic or infrastructure resources to operate refrigerators. Many of them were asking researchers how they should be preserving the milk so that they can use it more than once. SFHC staff was consulted to develop appropriate actions.

Secondly, 28 couples concurred that they were preparing sweet potato *futali* thrice a week. The abundance of sweet potato and groundnuts in the area was cited as a major reason for the high adoption of the dish. It is important to note that *futali* dish is made from peeled sweet potato or cassava. It is then sliced into fine pieces and boiled for some 20 minutes. When it is almost cooked, groundnuts flour, soy flour and salt are added. The pot is left on fire for 10 minutes for the ingredients to simmer. There was no reported problem that research participants were experiencing with this type of dish.

In addition, 18 couples indicated that they were cooking sorghum porridge at least once in a week. Many respondents stated that they wished to eat the porridge, but they did not harvest enough sorghum. Lastly, 12 families stated that they were cooking egg-vegetable balls twice a week. Egg-vegetable balls are cooked by shredding the vegetables and later mixed with beaten raw eggs. The mixture is then fried with very little cooking oil. Respondents explained that this dish is convenient and easy to prepare because it does not require great amounts of effort and time. Others also stated that the dish was appropriate for delivering vegetables to finicky children.

### 4.11.2 Unincorporated dishes

All participants reported that they were not cooking bean balls, soy and sorghum doughnuts even after making these recipes during the sessions. They explained that these dishes require commercial ingredients such as cooking oil and wheat flour which they were not able to purchase. One participant expressed his view on why his family is not cooking bean balls:
…the dishes which require local resources are *vipusu* or “simple” to prepare. We just gather the home grown ingredients and we spent just very little money on salt. But we have failed to try bean balls and doughnuts because they require us to spend money purchasing cooking oil. I know that these foods are delicious and nutritious but we cannot do anything to adopt them because we are financially broke (Patulani, 39, M).

It is important to note that doughnuts and bean balls were prepared using a deep-frying cooking method. In this technique, all the food is immersed in oil and heated on fire using a frying pan. In this case, the method requires more cooking oil than any other cooking methods (Rojas-Gonzalez, Avallone, Brat & Bohuon, 2006). At the time of the research, cooking oil was sold at $5 USD per litre while more than 50% of rural population has less than $1 USD to spend per day (Sumner, 2010).

4.12. Household Productive work (post-recipe day)

Results of post-recipe day interviews indicate that household productive work was the same as the findings of the pre-recipe days. Research participants explained that farming, *ganyu* labour and small scale businesses were their main sources of income. Both couples were involved in productive work with 29 women reported harvesting and transporting crops from the fields to the homes and 12 men reported constructing granaries. Eighteen couples stated that they were working together in harvesting maize and digging groundnuts.

4.13 Household reproductive work (post-recipe day)

4.13.1 Childcare activities

During post-recipe day interviews, couples were asked to sort the cards that had different childcare activities into three groups. The objective was to find out childcare activities that a respondent was mostly doing alone, or that their partner was mostly doing alone, or if there was shared participation. The following table shows the results from the second card sorting exercises:
A comparison of the pre and post-recipe day pile sorting exercises indicates that there is some improvement in which couples were involved in childcare activities. The areas where there are some improvements have been bolded in the table 7. Data show that 13% of the respondents (4 couples) indicated that husbands are now taking an active role in feeding the child. In most cases, the husbands said that they were feeding the children while their wives were around performing other domestic work. Snacks such as groundnuts, fruits and sweet potato *futali* were the common stated foods that fathers were feeding children. It was also reported by 10% of the respondents that husbands were now taking part in cooking food for the children. The husbands were taking full responsibility of cooking for the children when their wives were away for a few hours. They were also
reported preparing snacks for the children in between meals even if their wives were at home.

Playing with the children is another area that 87% (52 couples) of the respondents stated that they were doing cooperatively. Husbands reported that they were assisting children in making toys out of clay and sticks. Some of them said they were spending time assisting children with their nursery school lessons.

Only 3% of the respondents (2 couples) indicated that they were working together laundering children’s clothes. These families had male children who were two years old and fathers were washing special clothes that children wore at school. Changing diapers is the only childcare activity that all couples stated that is entirely done by women. Even the husbands that reported spending more hours playing with children were handing over the children to the mother to change diapers. Some husbands stated that if their wives were not around and the child needed their diaper changed, they would only taking off the dirty diaper and wrap the child in a cloth.

Additionally, 10% of respondents (6 couples) stated that they were now assisting each other in babysitting. In most cases, husbands were looking after the children when their wives were gone to fetch firewood and water. Finally, Table 7 also indicates that there is a slight increase of couples working together in some of childcare activities. These include finding toys, fetching food, escorting the child to the hospital and to the nursery school.

4.13.2 Perceived reasons for a slight increase of husbands’ participation in childcare
a. Recipe day education counselling

Research participants who reported cooperative childcare activities attributed husbands’ involvement in childcare activities to the recipe day meetings. The meetings, according to the respondents, acted as an eye-opener for the relationship of gender equality and child health. One participant explained this clearly:
The teachings of recipe day education was clear and appealing that if I and my wife are not going to assist each other in caring the children, then there are still high chances that the child can suffer from malnutrition. I am now able to link child health status with domestic work; a thing that I was not aware of at first. That is why I am now able to feed the child with different foods while my wife is concentrating on other work (Likambale, 32, M).

Another participant concurred with this assessment:

I can summarize what I learnt from that recipe day sessions using the following idiom; “A child can die of thirst while standing in a pool of water”. What I am meaning is that a child can be suffering from marasmus and kwashiorkor even if there is a lot of food in the household. As I am now assisting my wife to feed the child, I have seen that the child is eating a variety of foods in a single day. You know women mostly are concerned with porridge in order to quench child’s hunger but not the other simple foods that give other food nutrients such as vitamins (Mavuto, 37, M).

It was also indicated that even those husbands who did not improve in taking care of their children understood that their involvement may greatly improve the life of the children. Such husbands explained that they are planning to care for the child when they can eat complementary foods, as currently their children are exclusively breast feeding.

4.13.3 Improved husband-wife relationship

Seventy percent of participants stated that their relationship with their spouse has improved after attending the recipe day sessions. The husbands were now more attentive when discussing issues relating to jenda unlike previous days where they were aggressively negative with the topic.

I am now able to ask my husband to look after the child at home while I am doing some work. Sometimes he tries to give me an excuse but with little sweet talk you find that he accepts. Previously I couldn’t try to say that because I was afraid he could complain to our marriage counsellors who could fault me that I am not respecting him. But now he knows that his case cannot be taken seriously as the counsellors also learnt the importance of jenda at the recipe days (Navess, 33, F).

Some participants stated that the breaking of silence on the issue of gender equality has made husbands to spend time conversing with their families unlike in the past. At present it has been observed that the more hours that the husband stays at home, the greater his involvement in childcare. The following respondent points this out:
My husband is so caring now. When he says that he want to go away, I reason with him that he must assist me looking after the child before going. During such a time, he takes the child and peels some fruits or roasts some sweet potato for her to eat. He is now getting along well with the child because he is using different incentives so that a child should not cry. I hope the problem in the past was that we were not open to each other and recipe education just made us to do so (Nyamphande, 35, F).

4.13.4. Housework activities

During the post-recipe day interviews, research participants were asked to sort the cards into three categories. The first one indicating housework activities that they performed more than their partners, the second to show activities that their partners were performing more, and the third indicating those activities that they were performing almost equally. Table 8 below indicates the reported level of couple’s involvement in various housework activities.
<table>
<thead>
<tr>
<th>Housework activities</th>
<th>Mostly done by wives (% of responses n=60)</th>
<th>Mostly done by husbands (% of responses n=60)</th>
<th>Done almost equally (% of responses n=60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laundry</td>
<td>56 (93)</td>
<td>-</td>
<td>4 (7) *</td>
</tr>
<tr>
<td>Herding livestock</td>
<td>-</td>
<td>60 (100)</td>
<td>-</td>
</tr>
<tr>
<td>Constructing pit latrine</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Home nursing</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Shopping</td>
<td>-</td>
<td>-</td>
<td>60 (100)</td>
</tr>
<tr>
<td>Mopping the house</td>
<td>56 (93)</td>
<td>-</td>
<td>04 (7) *</td>
</tr>
<tr>
<td>Ironing</td>
<td>-</td>
<td>8 (13)</td>
<td>52 (87)</td>
</tr>
<tr>
<td>Taking care of the surrounding</td>
<td>27(45)</td>
<td>2(3)</td>
<td>31 (52)</td>
</tr>
<tr>
<td>Bed making</td>
<td>47 (78)</td>
<td>2(3)</td>
<td>11 (18)</td>
</tr>
<tr>
<td>Digging rubbish pit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cooking</td>
<td>54 (90)</td>
<td>-</td>
<td>6 (10) *</td>
</tr>
<tr>
<td>Attending home gardens</td>
<td>-</td>
<td>4 (7)</td>
<td>46 (93)</td>
</tr>
<tr>
<td>pounding</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attending livestock</td>
<td>-</td>
<td>-</td>
<td>60 (100)</td>
</tr>
<tr>
<td>Fetching firewood</td>
<td>58 (97)</td>
<td>-</td>
<td>2 (3) *</td>
</tr>
<tr>
<td>Chopping firewood</td>
<td>8 (13)</td>
<td>2 (33)</td>
<td>50 (83)</td>
</tr>
<tr>
<td>Fetching money</td>
<td>-</td>
<td>-</td>
<td>60 ( )</td>
</tr>
<tr>
<td>Attending to maize mill</td>
<td>48 (80)</td>
<td>2(3)</td>
<td>10 (17) *</td>
</tr>
<tr>
<td>Smearing the house</td>
<td>60 (100)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fetching food</td>
<td>-</td>
<td>-</td>
<td>60 (100)</td>
</tr>
<tr>
<td>Drawing water</td>
<td>52 (87)</td>
<td>-</td>
<td>8 (13) *</td>
</tr>
<tr>
<td>Washing kitchen utensils</td>
<td>58(97)</td>
<td>-</td>
<td>2 (3) *</td>
</tr>
</tbody>
</table>

Table 8: Reported involvement of couples in housework activities

Results from Table 8 shows that 13% of respondents (four couples) indicated that husbands were involved in drawing water from the well. This report was confirmed through research informants and participant observation. During my walks in the village, I observed some men carrying water on their heads from the well to their homes although they were not aware of my presence. When I came across one of them, he said that; “You do not need to ask people if we are implementing what we learnt at recipe day education. You have seen with your naked eyes” (Tembo, 30s, M). The following two pictures taken
in different villages depict two husbands carrying water from the well to their respective homes.

![Figure 10: Husbands carrying water from the well (Source: E. Chilanga, 2012)](image)

In one of the villages, one research participant invented a wooden wheelbarrow that he is using to draw water. When asked what prompted him to come up with such a tool he told me that:

When I came back from the recipe day education, I attempted to please my wife that I have understood what I learnt at the session. Unfortunately, I find it difficult to carry a bucket of water on my head as women do. I was failing to balance myself while walking as a result I was wet all over my body due to water splashes. While I was walking, I thought of making something from a wood similar to a wheelbarrow that can simplify my water carrying work…….. After two to three attempts, I managed to produce this wooden wheelbarrow that I even use to carry a maize bag of 50 kilograms to the maize mill (Luka, 32, M).

Through observation and respondents’ remarks, the wooden wheelbarrow is capable of carrying more than 20 litres of water. Youths in the area took note, and constructed their own wooden wheelbarrows which they use to draw water and carry maize bags to the maize mills. The involvement of boys in carrying household water has reduced the time that women spend in drawing water. As shown in the two pictures below, boys now take part in carrying water because they are motivated to use the wooden wheelbarrows.
Research participants explained that the involvement of boys in some domestic work marks a new paradigm in the perception of domestic work: now it is a task that belongs to all members of the household. The following remarks underpin this idea:

My boy child is different from me. I am now encouraging him to do all domestic work including those that my parents were not allowing me to do. I hope if I can instill this behaviour while he is young then he will not be shy to do such work when he will get married in future (Patulani, 39, M).

Many participants were optimistic that although not everyone has started taking part in water collection or other household tasks, there is a hope that gender equality in the participation of domestic work will be achieved in the near future through the current generation of boys and girls.

A comparison of the pre- and post-recipe day interview results also shows that 7% of the respondents (4 couples) indicated that husbands were now taking part in laundering clothes. In addition, 10% of the participants (6 couples) showed that husbands were now taking part in cooking and preparing foods. Furthermore, 20% of participants (12 couples) indicated that they were assisting each other in attending to the maize mill. Finally, there are also some minor changes where by 3% of respondents stated that they were helping each other in fetching firewood and 7% are working together in mopping the house.
On the other hand, participants indicated that women were still responsible for pounding food, even if husbands learnt how to pound food during the recipe day sessions. To understand why this task was unchanged, respondents gave the following feedback:

Using mortar and pestle to pound food will be the last gender equality teaching that men will adopt in the households. This is so because there are strong cultural beliefs attached to pamntondo. I hope I told you in the first time that pamntondo is a secluded place for women where they pass on traditional knowledge to young girls. Everyone knows about this as such every normal man cannot interfere with such spaces (Mwale, 39, M).

Participants stated that for the sake of respecting cultural beliefs attached to pamntondo, it is better that husbands should be allowed to do domestic work such as cooking, drawing water, feeding children, laundering and playing with children.

4.14 Perceived reasons for a slight increase of husbands’ participation in domestic work

4.14.1 Vote of confidence in SFHC project

Research participants stated that they are practising the lessons of gender equality that they learnt at the recipe day session, because they are confident in the SFHC project. Respondents concurred that before joining the group in 2009, most families were running out of food stocks in the month of December every year. Through collaboration with community promoters and FRT members, most of the households are now food secure. The introduction of recipe day education sessions acted as a component of the ongoing project in which they are already members. Since most of them believe that the project is there to improve their health status, they find it necessary to practice what they learnt during the recipe days. One of the husbands clarified his involvement in “women’s domestic chores”:
I was not one of earliest members of this project [SFHC] in 2010; during that time, my daughter fell sick. We spent a lot of money consulting herbalists in order to find treatment but to no avail. One of my friends told me to take the children to the SFHC office so that they can assess her. When we were there, the officer told us that the child was malnourished. She supplied us with soy flour, groundnuts, beans and maize flour so that we should feed her. Within a month the child was healthy. This prompted me to join the project and follow what they counsel us because I am the testimony that the project is here to save our lives. Currently, I follow whatever they advise us including this new teachings of ‘jenda’ (Kwenda, 43, M).

Many participants explained that because they are the beneficiaries of the project, the lessons given during the recipe day session were received in good faith. This is a potential reason for the increased male participation in domestic work.

4.14.2 Efficient mode of education

Research participants stated that observed changes in the division of domestic work amongst couples are a result of the recipe day education strategy. Sixty eight percent of the participants stated that recipe day education is designed in a way that participants are considered owners of the education. The facilitators, many of whom are farmers from nearby villagers, give the participants a chance to discuss what they think they can do to improve the nutritional status of their children, which is rare in many gender lessons. One participant explained their experience as such:

This type of education which brings together all community members to discuss about their problems and to find its solution is great. Everyone in the community knows the root cause of a problem and strives to be part of the solution. This motivates people to implement what they learnt because if one of the children in a certain household can be malnourished, then everyone will know that the parents were not following the Kalongonda advice. No one can allow to be a bad example in a village as such we have started performing domestic chores as agreed (Tembo, 34, M).

This response was common, and many people gave examples of other government and ‘gender activist’ programs (names concealed) which are not sustained because instead of work being done in a collaborative manner, local people were simply told what to do. Many participants lamented that they feel cheated with other programs that advocate for gender equality because they come only once to instruct, and then never

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*4 Local name for SFHC project in the research area*
Such interventions are not sustainable because there is no chance of verification of effectiveness through follow-up.

In addition, some participants praised the inclusion of practical cooking lessons as a determining factor in convincing couples to share domestic work. They explained that words alone without empowering participants with practical skills on how to perform tasks is a misguided inefficiency. The following respondent clearly stated this view:

We were able to practice preparing soy milk on our own during the recipe days. When we went home we were reminding each other as a couple how to go about it. It could be very difficult for me to practice cooking if the Community promoters were just telling us that we need to be feeding our child a variety of foods without demonstrating how to prepare them. The practice that we had and tasting of the foods motivated me and my wife to start preparing them in our household (Levison, 26, M).

4.15 Child feeding Practices

During the post recipe day interviews, couples were asked to recall the foods that they fed their children in the past 24 hours. In addition, parents were asked to list common foods that they had fed their children in the past three days. For triangulation purposes, FRT members and the researchers randomly observed the foods that couples were preparing and feeding their children during home visits. Table 9 shows the most reported and observed foods that were given to the children after the recipe day education as compared to pre-recipe day child feeding frequency.
<table>
<thead>
<tr>
<th>Name of food</th>
<th>Consumption frequency in 3 days (n=60)</th>
<th>Consumption frequency in 3 days (n=60)</th>
<th>Observed change in relation to 3 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-recipe days</td>
<td>Post-recipe days</td>
<td></td>
</tr>
<tr>
<td>Soy porridge</td>
<td>2</td>
<td>3</td>
<td>+ 1</td>
</tr>
<tr>
<td>Groundnuts porridge</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Whole grain maize flour porridge</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Watery refined white flour porridge</td>
<td>6</td>
<td>3</td>
<td>-3</td>
</tr>
<tr>
<td>Refined maize flour nsima</td>
<td>6</td>
<td>4</td>
<td>-2</td>
</tr>
<tr>
<td>Fish</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>meat</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>1</td>
<td>0</td>
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<tr>
<td>beans</td>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
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<tr>
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<td>+ 1</td>
</tr>
<tr>
<td>Soy milk</td>
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<td>2</td>
<td>+ 1</td>
</tr>
<tr>
<td>Futali</td>
<td>0</td>
<td>1</td>
<td>+ 1</td>
</tr>
<tr>
<td>Egg-vegetable balls</td>
<td>0</td>
<td>1</td>
<td>+ 1</td>
</tr>
<tr>
<td>Sorghum porridge</td>
<td>0</td>
<td>1</td>
<td>+ 1</td>
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</table>

Table 9: Comparison of pre and post-recipe day child feeding pattern

A comparison of feeding patterns and food given to children on pre- and post-recipe days are discussed in the following sections:

4.15.1 Soy, groundnuts and watery refined white flour porridge

Parents reported that they were feeding soy porridge to their children at least once every day within the three days being examined. This change demonstrates an increase from the pre-recipe days, when parents were feeding children the same soy porridge twice
in three days. It has also been shown that children maintained a consumption level of once every three days for groundnut porridge. Furthermore, couples indicated that they were adding soy milk to watery refined white flour porridge that children were eating once in a day unlike twice in a day as before. According to respondents, the main reason for their addition of soy milk to watery refined white flour was to enrich the food, as they were advised at the under-five clinics and recipe days that polished cereal products have low levels of food nutrients. In this regard, the diverse nutrients that are found in soy replace the nutrients that were lost during processing of maize flour. In addition, soy milk fortifies the porridge because the nutrients that are added are more than those that were available before the maize flour was processed (Dary, 2007; Rowe, Pike & Dunn, 2008).

The high provision of watery refined white flour porridge to children in the pre and post-recipe day education was linked to its convenience in preparation. One participant explained that:

I find it difficult to be cooking soy or groundnuts porridge for my child three times in a day because it takes at least more than an hour to be cooked. As a result, I prefer white porridge because you just decant a small portion of porridge from the pot of family porridge aiming at preparing nsima. I know that at under-five clinics, they don’t recommend us to feed white porridge to our children but we do not have time to keep on preparing soy porridge the whole day. The coming of soy milk has assisted us to start adding it to the porridge so that the child can be eating nutritious food as health personnel usually say that soy is best for the children (Nyakhondowe, 36, F).

It is necessary to assess the nutritional value of soy milk that is processed in the household to develop verified data on its nutritional benefits. If the local processing technique maintains the bioavailability of the food nutrients found in soy beans, then parents may be recommended to promote adding soy milk to watery refined white flour.

4.15.2 Sorghum porridge

During the post recipe day interviews, 12 households indicated that they were preparing sorghum cereal porridge for breakfast once in three days. All family members including children were consuming the porridge, as they were unable to purchase sugar for preparing tea, the preferred breakfast in the area. The researcher asked participants to explain how they were processing sorghum into flour. It was indicated that the sorghum grains were winnowed and then milled as whole grain flour. It is important to know that
unrefined sorghum flour provides the body with energy, protein, vitamins and minerals (Dicko, Gruppen, Traore & Vorage, 2006). However, sorghum contains resistant starch which reduces its digestibility especially in children (Niba & Hoffman, 2003). Therefore, there is a need to explore different ways in which couples may process sorghum such as soaking for some minutes before drying and milling which may be easily digestible and at the same time maintaining its nutritional values (Wong, Cai, Lau & Pedersen, 2009).

4.15.3 Nsima “a staple food”

Results from the second phase shows that fewer children are eating white flour nsima. Participants explained that they are now substituting cassava, banana and sweet potato futali for nsima as main dishes in some days. The following quotation explains a view of one respondent pertaining to futali dishes;

On Wednesday this week, we cooked potato futali in the evening but hoping to prepare nsima during the night. After eating the futali, we were all full and everyone including our child refused to eat nsima. We only picked some oranges from the tree to top up the futali meal (Nyankhata, 22, F).

It is often stated that Malawians who eat nsima as a staple food, feel that they have not eaten even if they can consume rice, sweet potato or cassava which are equally satisfying and more nutritious than nsima (Rowe et al., 2008). The reported reduction in the consumption of nsima and acceptance of other foods as main dish indicates that there is a possibility that increased dietary diversity can be achieved in the community. There is a need of sustaining recipe day education so that couples may be constantly motivated and empowered to diversify their dietary habits.

4.16 Household decision making

Couples were asked to explain how they were making decisions related to child care and food. Three quarters of the couples indicated that they were discussing ways in which they can improve the health status of their children. Participants reported that recipe day education showed them the value of including both wife and husband in the decision making process for child care and food. One respondent, who insisted that I take his picture to prove that his family has changed, said the following:
I was spending more hours at the drinking joints before attending recipe day education. When we returned home we discussed what we should do so that everyone will be having a chance of taking care of our children. We agreed that I should stop going out drinking but instead I must be sending someone to buy beer sachets for me [a yellow pack in the left hand]. As you can see now, I am saving some household money [in his right hand] because I am not buying beer for my friends as I have been doing before; I am staying at home looking after the children while maintaining my drinking habit (Nkhoma, 51, M).

![A participant who is currently drinking beer at home](Source: E. Chilanga, 2012)

There was also a general consensus amongst couples that husbands were initiating discussions concerning the type of food that they will feed their children the following day. Their involvement in deciding food for the next day has made them take on the responsibility of digging sweet potato and cassava in the fields. In most cases, husbands were also involved in peeling banana and cassava for breakfast and *futali* while their wives were doing other tasks. The following respondent explains how she is cooperating with her husband with regard to food-related decisions:
At the moment, we are discussing what we are going to eat the next day in terms of breakfast. Depending on what we have agreed, either my husband takes the responsibility of sourcing that food or I take the responsibility of cooking the food. For example, if we agreed that we are going to eat sweet potato, then we agree that he will wake up early in the morning to dig the potato in the garden while I am sweeping the surrounding. If we agreed that we are going to cook porridge then he volunteers himself to shell the groundnuts for seasoning the porridge (Nyamphande, 35, F).

The involvement of husbands in housework activities was verified in some of the participant observation home visits. In one instance, a husband was observed chatting with a friend while shelling groundnuts. The participant, together with his wife, were happy to see researchers and stated that the groundnuts were intended to be ground into flour for seasoning vegetable relish. This eager and welcoming atmosphere was explained by the wife of the household, who told me that previously (before recipe day education) her husband was not willing to shell the nuts when the wife asked him to do so. He was only involved in shelling bulky groundnuts meant for sale because he knew he would be a major beneficiary of this labour.

In another home visit, a couple was witnessed coming from the maize mill carrying a bag of maize flour on their heads. In the research area, it is culturally wrong for a wife to let the husband to go to the maize mill carrying mphale\(^5\) on the head unless the husband is using a bicycle. When the couple saw the researcher approaching, they began to laugh, and the wife said;

Thank you for coming up with good advice. As you can see, we are now discussing and planning together our daily work. My husband is now more responsible and understanding. The more we discuss about what to do next day, the more my husband is involved in that work. The better part of it is that there is no one who is claiming that I have feed my husband khuzumule (Elida, 34, F).

One husband agreed with the observation that the more they discuss about what to eat the next day the more he was involved in making sure that the food is available at home. He told me that he found out that he cannot afford to keep on buying vegetables on a daily basis, and as a result they established a home garden. At the time the family was

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\(^5\) Grounded maize grains with its husks removed. A pestle and mortar and sometimes dehulling mills are used.
visited, the garden fence was already erected, and pumpkin seeds were sprouting. The wife said that when they begin harvesting the vegetables, they will reduce consumption of sun-dried vegetables which she preserved during rainy season.

4.17 Summary

This study investigated the impact of community based participatory recipe day education on gender roles and childcare practices in Ekwendeni, Malawi. The results were divided into three sections: pre-recipe day, recipe day and post-recipe days. The first section opened with household productive work whereby agriculture was identified as the mainstay of livelihood. All family members are involved in agricultural production. The research has identified that wives were performing the majority of both childcare and housework activities. Sociocultural and biological explanations were amongst the most commonly cited factors for the inequality in the division of domestic work. The study has also identified that plant products are the main foods that children were eating with nsima, watery refined white flour and soy porridge contributing almost 70% of the diet. During the recipe day education sessions, participants discussed and learnt various skills regarding gender and food preparation. Stakeholders set a goal to improve child nutrition through promotion of gender equality in the participation of domestic work.

Finally, during the post-recipe day education, participants indicated that there is a slight improvement in child feeding patterns in that soy milk, soy porridge and a sweet potato-groundnut dish (futali) are amongst dishes that children are consuming regularly. In addition, there was a reported improvement of husbands taking part in domestic work. Lack of financial resources emanating from poor markets was attributed to failure of participants to utilize some of the skills that they learnt during recipe days.
CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

The final chapter of this study presents the major contributions of the research. The primary objective of the thesis is to explore whether community-based participatory nutrition education can promote more equal child care and housework practices amongst couples in northern Malawi. Key findings regarding the links between nutrition education, gender roles and child care practices are examined within the existing literature on feminist and gender theories, transformational educational approaches and the concept of care. Potential policy and development alternatives aimed at addressing child malnutrition and household gender inequality using participatory nutrition education are discussed. The chapter closes this study by highlighting possible areas of future research in Malawi and other developing countries.

5.2 Pre-recipe days child care, housework and gender equality in northern Malawi

This research concurs with numerous studies that document a persistent unequal gendered division of domestic work amongst couples in both developed and developing countries (Moore & Vaughan, 1987; Mannino & Deutsch 2007; Blackden & Wooden 2006; Coltrane, 2010; Lachance-Grzela & Bouchard, 2010; Claffey & Manning, 2010). All these empirical studies conclude that women continue to do “the lion’s share” of domestic work as compared to their partners. As noted in this research, during the pre-recipe day nutrition education interviews, the majority of the participants reported that wives were performing almost all of the child care and housework activities. Unlike in a study conducted by Biran, Abbot, & Mace (2004) in Tanzania where women leave their infants behind when they are going to collect firewood, in this study, women reported that they carry their children with them whenever they are on a trip to the bush. Women stated that they do not carry snacks/food and water for themselves and children even if they spend more than four hours in the forest. This revelation is critical as participants stated that on average women went to collect firewood twice in a week. This means that children who are on complementary feeding do not access food regularly which may potentially compromise their nutritional status (Dewey & Adu-Afarwuah, 2008). In
addition, women reported that they depend on rivers as a source of water for drinking while they are in a bush collecting firewood. During this research, most of these rivers had stagnant waters and mothers and children were observed drinking untreated water. Although Biran et al., (2004) suggested that carrying children to the forest is necessary as mothers have an opportunity to breast feed them while in transit, I propose that such recommendations should be taken with caution as this research and other studies have shown that children are exposed to unhygienic water and disease vectors such as mosquitoes in the forest (Clasen, Haller, Bartram & Walker, 2007; Montgomery, and Elimelech, 2007). It important to note that malaria and diarrhoea account for 42% causes of child mortality in Sub-Saharan Africa per annum (Vaahtera, Kulmala, Maleta & Salin, 2000; Black, Allen & Bhutta, 2003). I may recommend that fathers should be motivated to take a leading role in collecting firewood when their wives have children who are breastfeeding and early complementary feeding. This may not only prevent children from being exposed to hazardous environments, but also provide mothers with ample time to feed them.

This research is also consistent with a study by Ma (1989) in Nepal where he found that lactating mothers were constrained with both child care and agricultural work. Using participant observation for a period of one year, he found that suckling children were interfering with their mothers in agricultural labour and were more exhausted than non-breast feeding counterparts. As stated in results section of this research, mothers were solely responsible for caring children while working in the fields even if their husbands were present. Most women reported that they do not have adequate time to rest in the garden as most of the time they were busy soothing the child, harvesting, and attending to the child’s hygiene while fathers were reported to spend most of their rest time smoking tobacco while standing or sitting. Based on studies by Bently, Aunger, Harrigan & Jenike (1999) and Brinkman, De Pee, Sanogo & Bloem, (2010), most rural women in Sub-Saharan Africa do not access more nutritious foods during pregnancy and lactation. This makes them draw upon their body fat reserves to provide much needed energy when they are engaged in rigorous agricultural labour which compromises their health status. This research proposes that lactating mothers should engage in minimal agricultural labour or should do lighter agricultural tasks which may not require as much energy in order that
their nutritional status and overall quality of life should not be compromised. The arrangement can help mothers to have time to care for their young children as the period can offer a kind of maternity ‘leave’.

This research also indicates that husbands’ lack of participation in water collection has a potential negative impact on families’ access to hygienic water. Thirty-four participants explained that husbands do not visit water collection points and as, such they do not take a leading role towards initiating development projects that can provide potable water. Through observation, most women were scooping sand in the riverbed to make temporary shallow wells. Domesticated animals such as goats and cattle were observed drinking water from the same wells as they are not fenced. This finding agrees with a study by Rathgeber (1996) who stated that rural women in Africa take a leading role in providing, managing and safeguarding domestic water. She recommended that any initiative to promote access to hygienic water should involve all stakeholders such as men, women and community leaders. Therefore, I suggest that scholars find ways in which husbands may be engaged in water collection which may provide a context to work together with women in finding solutions to problems that affect access to portable water.

5.3 Post-recipe days child care, housework and gender equality in northern Malawi

The results of post-recipe day interviews show some improvements in husbands’ participation in child care and housework activities. For example, thirty-six participants confidently stated that husbands were able to prepare food for the children when their wives were attending to other tasks. In addition, some husbands were involved in collecting water which motivated one of them to come up with a wooden wheelbarrow. Although this is the case, fathers’ participation in childcare and housework is still highly unequal. This means that more community-based participatory education should be initiated with an aim of discussing ways in which couples may work effectively in the agricultural fields, water collection and in firewood collection without affecting the nutritional status of children. Nevertheless, the results of post recipe days matches with the current trend in which husbands in developed countries are participating in domestic work. For example, a 14-year cohort study amongst white North Americans couples by Lam, McHale, & Updegraff, (2012), found that women perform 79% of all domestic work. In addition, a systematic literature review conducted by Lachance-Grzela and
Bouchard (2010) in North American households, found that despite wide advocacy in gender equality, women are performing more than 76% of all domestic work. Since recipe day educations were conducted for a month to yield the stated positive results, I suggest that they must continue to sustain the progress already made while reaching many people as well. The observed involvement of some men in previously perceived “feminine” domestic work is an indication of social change which is required to address gender inequality in a community (Knudson-Martin, 2007).

5.4 Application of household theories in northern Malawi

Scholars for the past decades have come up with a number of theories that account for the gendered division of domestic work. Most of these theories were developed from household studies that were conducted in developed nations which have different family structures and level of technology than poor households in developing nations (Nelson & Guino, 2012; Lam et al., 2012). Since this study was conducted in an agrarian developing country, it is of interest to identify theories that best explain the observed gendered division of housework. The analysis of these theories is vital to policy makers because they can guide the design of programs that can address the root causes of household gender inequality in Malawi and elsewhere in sub-Saharan Africa.

A. Relative resource model

According to the relative resource theory which is also called economic exchange hypothesis or the economic dependency model, the assumption is that the spouse with more socio-economic resources is anticipated to do less housework than the one with fewer resources (Knudsen & Werness, 2008; Kroska, 2004). This is grounded in a bargaining model of the household, which indicates that social economic resources offer the advantaged partner in the marital dyads more power to bargain his or her way out of carrying out domestic work. Focussing on the earnings proposition, scholars have found that high relative earnings reduce the breadwinner’s housework time. Studies conducted by Mannino (2007) and Pinto & Coltrane (2009) in United States, found that when there is a smaller difference between the spouses’ incomes, the results are a fairer division of domestic labour among them. Although many scholars support the earnings proposition as a basis of couples’ division of household work, some studies have shown that the theory has only a modest significance in explaining the gendered division of housework.
Gupta (2007) and Bittman, England, Sayer & Folbre, (2003) found that husbands who depend on their wives economically do less housework than their counterparts who earn roughly equal to their wives in Australia and United States, which contradicts this theory. This research shows that relative resource model does not fully explain causes of gendered division of work in northern Malawi. Twenty-four households that were participating in this research had wives who were members of the SFHC project. These women were the ones who got farm inputs such as soy, groundnuts and pigeon peas seeds which families depend upon as a source of income after selling the farm produce. In addition, couples were also working almost equally in food and economic production. Although couples were pooling monetary resources together, husbands were reported to do at most five domestic tasks as compared to their wives who were performing greater than thirty-five chores. Therefore, relative resource as applied in this research does not drive down gender inequality in the households of northern Malawi. From this result, I would like to argue that the claim that Blumberg (2005) and Hunt and Mehra (1997) put forward that enhancing women’s economic empowerment, that is “the business approach for women empowerment” is the ultimate method of addressing household gender inequality in developing countries; however, it cannot be the stand-alone strategy for achieving gender equality in northern Malawi. As already indicated, women in the project are empowered to own commercial farm inputs but they were still not controlling the yields. In addition, scholars are associating women’s economic empowerment with rising rates of divorce in India, China, Taiwan, Japan, Singapore and Malaysia (Huang, 2005; Pfeifer, Miller, Li & Hsiao, 2013; Retherford, Ogawa & Matsukura, 2001). The idea is that once wives are economically empowered, they improve their fall-back position (resources that one has and can be used once the family fails) that strengthen their bargaining power in the household (Agarwal, 2007). Although women’s economic empowerment is associated with a high divorce rate in the stated five Asian countries, scholars in Malawi are attributing rising divorce to the poor economic status of women (Reniers, 2003; Schatz, 2005). In this regard, scholars propose that economic empowerment can reduce the divorce rate amongst Malawian couples, but they pointed out that this recommendation should be taken with caution as there are complicated mechanisms underlying a high divorce rate apart from the weak bargaining power of
women. My research findings suggest that women’s economic empowerment in rural areas through farm inputs can be achieved if there is a component of involving community members and husbands to understand the importance of empowering women economically. Such context can help families to be stable as husbands then do not see women’s improved economic status as a threat to their role as head of family.

B. Gender Role Ideology

Gender role ideology framework is grounded in socialization theories which explain the inverse relationship between traditional gender attitudes and equal division of household labour. It is proposed that individuals are socialized in such a way that they perceive suitable roles, rights and responsibilities of women and men in society (Kroska & Elman, 2009). According to Cunningham (2001), the division of household labour is dependent on the gender role orientation of the partners. This theory means that if the couples have a stronger endorsement of traditional gender roles, they usually demonstrate unequal involvement in household tasks (Fulcher et al., 2011; Davis et al., 2007). On the other hand, gender role ideology shapes the perception of fairness in the division of domestic chores. Studies conducted by Greenstein (1996) in United States and Lavee & Katz (2004) in Israel indicate that ‘gender egalitarian’ wives reported more unfairness in sharing of domestic work than the ‘conservative gender ideology’ wives.

This study supports gender role ideology theory as the main reason given for the division of domestic labour amongst couples in northern Malawi. In this case, participants reported that social-cultural norms that are considered appropriate for husbands’ and wives’ roles in the households contribute to low participation of men in domestic work. Respondents explained that, culturally, husbands and wives have specific roles in the family whereby most of domestic work falls under the duty and responsibilities of a wife. On the other hand, social-cultural norms weaken the bargaining power of wives because they knew before getting married that all childcare and domestic work belongs to feminine roles. Furthermore, couples’ traditional gender ideology is reinforced by elders and relatives who usually reprimand a wife and husband who does domestic work as being contrary to their cultural expectations. Therefore, to address household gender inequality in northern Malawi, policy makers and scholars should find ways of having
dialogue and involving community members to modify social ascribed roles of men and women in the households towards more egalitarian roles.

Studies by Botkin, Weeks & Morris, (2000) and Claffey & Manning, (2010) show that although most American couples have egalitarian gender attitudes and nearly half of them are dual earners, women still does more than two-thirds of domestic work. This study supports these findings as many couples endorsed egalitarian attitudes after recipe day nutrition education, but few demonstrated them through changes to the division of domestic work. I therefore suggest that policy makers emphasize the beneficial effect of household gender equality on the long-term health impact of family members (Bird, 1999; Bird & Fremont, 1991). Such a link as observed in this research can motivate couples to consider household gender equality as one of the ways of addressing underlying and immediate causes of child malnutrition (Kennedy and Peters, 1992; Engle et al., 1999; Smith, 2003). For example, during recipe days education, fathers were encouraged to check the under-five clinic “health profile book” of their children with an aim of monitoring and verifying child’s growth progress. Five fathers who reported taking a greater role in preparing and feeding children attributed their action to an awareness that their children were not growing properly and that they wanted to improve the nutritional status of the children. Therefore, this research proposes that linking gender, family health and primary health care may have a potential positive impact of promoting couples to put gender equality ideology into practice.

C. Structural model/Demand-response model

The structural model, also termed as the demand-response model, argues that fathers can be involved more in childcare and house work activities if there is a need to do so and he has time to do the chores (Davis et al., 2007). This model is supported by Cunningham (2001), who finds that paternal participation in childcare and domestic work is positively related to the number of hours of maternal employment. In another study by Deutsch et al., 1993), it was found that fathers’ participation in domestic work was positively related to the number and age of children in the family.
This study supports the structural/demand-response model for the more equal participation of couples in escorting children to the hospital when they are ill. The fact that the area is far away from the hospital and most women cannot manage to carry children alone compelled husbands to support their wives. In addition, urgent need to save the life of a child was the other reason behind changes to the division of labour, namely escorting the child to the hospital. I also observed that some fathers were babysitting when they want their wives to cook food or wash clothes for them. Once the partner finished performing the intended task, husbands were handing over the child to a mother. Therefore, demand response model as a determining factor for more egalitarian division of domestic work before recipe days was applicable in only two types of domestic work, namely escorting the child to the hospital and babysitting.

D. Gender construction theory and “crisis of masculinity”

The gender construction model suggests that men and women do different childcare and domestic chores in order to display and confirm their gendered personalities (Kroska, 2004). The routine division of household labour offers a setting in which gendered identities of couples as masculine or feminine are produced, sustained, and renegotiated (Kluwer et al., 2000; Coltrane, 2000). According to a cross-sectional study done by South and Spitze (1994) it was found that in residential, heterosexual marriages, women do more domestic work than women in other living arrangements. According to the longitudinal study which was done by Gupta (1999), the shift from other living arrangements to residential heterosexual marriages is associated with a division of housework by the partners. In this context, women’s time in feminine labour rises whereas men’s time in feminine labour drops but increases in masculine work. These findings show that when individuals enter a marriage, they do construct gendered identities through housework duties.

In my research, participants claimed that men are stronger and more courageous and as such, they do domestic work which requires more strength and bravery. Digging and constructing pit latrines, moulding bricks and herding livestock are assigned to husbands because they are alleged to require more strength and courage. If a woman does such type of work, people address her as a “man” because she is displaying masculine
characteristics. Similarly if a man went to collect water, firewood and wash clothes, he is labelled as a “woman” because he is displaying feminine characteristics. Therefore, to maintain their identities as wives and husbands, each partner performs particular tasks that do not threaten their gender identity.

In addition, participants explained that they practice a patrilineal marriage system in which a man pays bride price and bring the wife back to his village. To show that he has attained the status of being a husband, all the “feminine domestic work” that he was previously doing when he was a bachelor is handed over to the wife. In this regard, a married man is acknowledged by his non-involvement in what is referred to as “feminine domestic work”. On the other hand, married women are known by their greater involvement in such domestic work. Therefore, gender construction theory clarifies the basis of inequality in the division of childcare and domestic work amongst couples in northern Malawi.

Recipe day nutrition education encouraged men to take part in domestic work which is a medium for displaying feminine gender in northern Malawi. Participants did not discuss how couples may display their gendered position as wife or husband in the household apart from domestic work. Failure to have a common meaning and role of a husband can lead to what Chant (2000) called “crisis of masculinity”. This is a situation in which men are confused about their roles in the household and about the meaning of being a husband in general. The crisis of masculinity according to research is the main contributing factor for the current rise of unstable families in South Africa, Costa Rica and Hong Kong (Sideris, 2004, Chant, 2000; Leung & Chan, 2012). According to social identity theory, men and women take their place in the world as gendered beings and in most cases a threat to men’s identity is mostly resisted through hostile behaviour in the household (Silberschmidt, 2001; Campbell, 1992). I therefore propose that organizers of recipe day and other stakeholders working towards household gender equality should find ways of addressing husbands’ concerns that gender equality erodes their power and identity as head of the family. Until “masculine identity crisis” is addressed, most men will be unwilling to perform domestic work even after interventions as was observed in this research.
5.5 Pre-post recipe days child complementary foods and feeding practices

Child growth faltering in Sub-Saharan Africa rises significantly when complementary foods are introduced to children from 4 to 6 months of age (Lin, Manary, Maleta & Ashorn, 2008, Imdad et al., 2011). This malnutrition is as a result of poor complementary feeding practices such as poor quality and inadequate quantity of complementary foods which are served to children. In addition, caregivers’ poor child nutritional knowledge, lack of information and traditional beliefs are underlying causes of poor child feeding practices (Nankumbi, Muliira & Kabahenda, 2012; Kruger & Gericke, 2003). This research confirms the findings of other studies in Malawi which indicates that plant foods are the main source of complementary foods in agrarian communities (Gibson, Perlas & Hotz, 2006; Dickinson et al., 2009). During pre-recipe day interviews, it was found that refined watery porridge was the main food for the child, given to them typically thrice in a day. Although this research did not measure child anthropometric status, a study by Bezner Kerr et al., (2007) in the same region found that early introduction of such porridge during complementary feeding was associated with poor child growth.

Research participants also reported that a portion of nsima with vegetables was given to children twice in a day. Research by Phuka, Maleta, Thakwalakwa & Manary (2008), Quinn et al., (1990) and Chimwaza (1982) found that children who were consuming nsima with vegetables or beans were not meeting caloric requirements in Southern Malawi. The reason is that children have a small stomach and nsima which has low nutritive value fills up the stomach which displaces breast milk. The findings in Malawi also concurs with the findings of a systematic literature review that was conducted by Newby (2009) in developed countries, whereby children who were mostly consuming plant products were likely to have normal or less body mass index (BMI) than children who were consuming fat foods as they were likely to be obese. The reason is that vegetables, grain and cereals contain more carbohydrates which are low in energy density than high fat foods such as meat as they have more calories per gram. In this regard, there is a need to motivate parents to find ways in which they may promote provision of food supplements which may provide enough body energy while reducing consumption of nsima.
Furthermore, several couples reported that, on average, children were eating soy porridge with added groundnuts (peanuts) twice in every three days. In a study conducted in Southern Malawi by Lin et al. (2008), children who were served two peanut-/soy-based foods per day for 6 to 12 months gained 110 grams more than those not fed peanut or soy-based foods. The child feeding patterns reported by parents after the recipe days suggest that parents were feeding their young children an increased serving of soy porridge seasoned with peanut flour. This additional food may improve children’s weight gain if such a feeding pattern can be maintained over time and other factors such as disease do not interfere in weight gain. In a prospective quasi-experimental study that was conducted by Bezner-Kerr et al., (2010), under the same project, children in the intervention groups who were consuming more leguminous food products were nutritionally better-off than those in the control group. In my study, the reports from parents suggest that recipe day education can improve child nutrition status by motivating couples to increase serving leguminous food products to children.

After recipe day nutrition education, parents reported that their children reduced the consumption of refined nsima by an average of one serving and replaced with a serving of either sweet potato or cassava which was fortified with soy or groundnuts flour. In addition, some parents spoke of adding home-made soy milk to the refined plain porridge which was served to children, particularly those parents of children under one year of age. If parents in fact made these changes to complementary feeding patterns, the increase in protein-based food products suggest that recipe day education has a potential of motivating couples to improve child nutrition.

5.6 Caregiver’s nutritional knowledge and household decision making

During pre-recipe day interviews with research participants, wives exhibited more child nutritional knowledge than their partners. Their involvement in under-five child clinics was the reason they gave for such knowledge. In two studies that were conducted in Malawi by Quinn et al. (1990) and Paz Soldan (2004), they found that not all the knowledge that women were receiving at the hospital was being implemented in their households, because many household decisions relating to utilization of resources are made by husbands and elder relatives such as mothers-in-law. As observed in this research, although women had adequate knowledge in child nutrition, they reported that
they did not have autonomy to allocate household financial resources to the needs of children such as buying milk or animal protein. Thus the knowledge that women in the research area have does not necessarily translate into improved child nutritional status. According to a study by Peters and Kennedy (1992), income controlled by women has a significantly greater and positive impact on child caloric intake compared to that controlled by husbands in Malawi. In other studies conducted in Jamaica, Brazil, Chile and Guatemala, the results indicate that resources in the hands of the mother have a more positive effect on child nutrition and health compared to the income that is controlled by the father (Buvinic, 1997; Handa, 1994; Handa, 1999; Buvinic & Gupta, 1997; Onyango, Tucker & Eisemon, 1994). In this study, recipe day nutrition education that was organized in the research area was appropriate as it involved both couples to understand the need of involving wives in decision-making which may have positive impacts on children’s health.

During post-recipe day interviews, fathers exhibited a better understanding of basic child nutritional knowledge as compared to the pre-recipe days. For example, fathers, like their wives, explained that leguminous foods, vegetables, fruits and unprocessed foods were beneficial to children unlike watery refined maize porridge and nsima. The reported reduction in the serving frequency of refined porridge to children was attributed to the knowledge that they acquired from the nutrition education. In addition, some fathers reported utilizing cooking skills that they attained during intervention period to prepare soy milk and futali dishes.

This research has also shown that participatory based nutrition education has the potential of promoting joint decision-making amongst couples. This result is attributed to the involvement of both partners in the recipe days, which acted as a ground for breaking silence around household decisions. The modified social context with the assistance of traditional leaders and local elders was reported to be the reason that empowered wives and husbands to discuss about domestic work in their households. Although local leaders, religious leaders and elders are very influential in sub Saharan Africa, feminist scholars have not paid much attention on how best they can collaborate with them in order to address household gender inequality (Njaya, 2007; Connell, 2005). In Malawi, studies
indicate that involving traditional leaders in fighting against HIV/AIDS and Tuberculosis has a positive impact on mitigating the impact of the diseases. For example, through the influence of traditional leaders more than 52,510 community members went for Voluntary, Counselling and Testing (VCT) and 15,304 were found to be HIV positive. Chiefs took a leading role in offering resources necessary for community-based care and income generating activities such as land and infrastructures (Zachariah, Teck, Labana & Harries, 2006; Zachariah, Teck, Labana & Chinji, 2007). The aforementioned case study and my research suggests program and policy makers who are working in Malawi should consider involving local leaders when planning programs that aim at addressing household gender inequalities.

5.7 Perception of “rural foods” as inferior in quality to “town foods”

During the pre-recipe day interviews, three quarters of research participants explained that they do not access foods that can provide adequate nutrients because they live in rural areas. There was a recurring theme that their nutritional status was compromised because they are unable to purchase and prepare “town foods” that provide adequate nutrients. The concept of urban food was linked to serving a wide variety of foods in one meal such as rice, meat, salad and fruits. These foods are mostly fried with cooking oil which gives a good flavour. Based on observation and other studies in Malawi, households in the research area had more healthy foods such as groundnuts, beans, soy beans, maize, green vegetables, domesticated birds, sweet potatoes, fresh milk and fruits (Gibson et al., 2006) just to mention a few. Participants were underrating their foods as inferior as compared to commercial foods such as bread, processed meat, sugar, margarine, cooking oil, powdered milk and tea which are mostly bought and consumed by urban dwellers (Msyamboza, Ngwira, Dzoole & Mvula, 2011; Samb, Desai, Mendis & Wright, 2010).

During the recipe day education sessions, participants brainstormed the meaning of healthy and nutrititious foods. This time, community promoters, SFHC staff and scholars who were present clarified the negative effect of processed foods and over dependency on cooking oil and margarine. Participants realized that local foods are better than processed foods as they do not contain highly saturated fats, sugar, and salts (Msyamboza, Dzamalala, Mdokwe & Kamiza, 2012; Samb et al., 2010). Relevant
examples were discussed as many participants were aware that many people who were obese and mostly live in town were known to suffer from non-communicable chronic diseases such as diabetes and hypertension. In this case, people were discouraged from envying people who are obese because they are susceptible to various non-communicable diseases. It is important to note that being fat in Malawi is regarded as a wealthy person and is associated with urban and high class individuals (Msyamboza et al., 2011). Participants practiced preparing different dishes which can be served together to make a complete diet. In this case, the participatory education dispelled the belief that local foods were inferior and participants were motivated to eat a variety of foods during their meal time. During post-recipe day interviews, this research registered an improvement in child feeding frequency and most participants attributed this to the knowledge that they got from recipe days. In this case, nutrition education probably builds self-esteem in participants to utilize a variety of rural foods which were promoted as “better” than urban foods. Therefore, I propose that policy makers should understand the needs and food perception of participants before introducing community nutritional education. This can help to tailor the education to address food myth and beliefs which demotivate parents from maximizing its utility.

5.8 Impact of community-based nutrition education on couples’ behaviour

Scholars argue that to understand the human social world, there is a need to give more consideration to the social context in which the behaviours occur (Davis & Greenstein, 2004; Hook, 2006). This proposition is based on a macro-level perspective which states that structural and cultural forces shape the way individuals behave in their own home such as how they organize and share housework. This study supports the macro-level perspective because participants unanimously reported that socio-cultural factors are the main perpetrators of gendered division of domestic work amongst couples in Northern Malawi. Participants and key stakeholders agreed that parents, elders, traditional leaders and friends of the couples were providing a rigid environment, such that even those couples who wanted to assist each other in domestic work were failing to do so.

According to Fuwa (2004), Geist (2005) and Fuwa & Cohen, (2007) there is a need to find ways in which cultural context can be modified through negotiations with
local stakeholders in order to improve gender equality in domestic work. This research has found that recipe day participatory education has the potential of bringing together community members of diverse age groups and social positions to discuss the significance of household gender equality on child health. The cultural perceptions that men do not use reed mats, mortar and pestle were dispelled when elders and chiefs were involved in food preparation activities. The SFHC staff present only discussed some possible relationships between gender (in)equality and child nutrition while the entire facilitation was done by trained local community promoters. In this regard, participatory nutrition education acted as a medium in which community members understood the need of perceiving household gender equality as one way of improving child nutritional status. It can be argued that recipe day education is a better method of socializing community members as some of them showed behavioural change through their involvement in domestic work. The findings in my research support and add to current literature which shows that participatory nutrition education programs are effective in mobilizing communities in improving child nutrition (Dewey, and Adu-Afarwuah, 2008; Hotz & Gibson, 2004; Macaulay, Commanda, Freeman & Gibson, 1999).

5.9 Rural livelihood and sustainability of gender and development programs

This study supports and extends the work of Burhansstipanov & Schumacher, (2005) and Bogart & Uyeda (2009), who found that for community-based participatory research to be successful it is essential to involve communities in identifying the research areas that they consider most important. In this research, I argue that gender equality projects are most effective when they emerge or grow out of previously established and proven community projects that already hold currency with the host population/community. For instance, participants reported that they were willing to be involved in gender equality forums because they have been collaborating with the SFHC project in finding solutions to resolve household food insecurity. Participants explained that gender equality programs that were initiated by other organizations in the past were not patronized by men. The objective of these programs was the promotion of gender equality, without first empowering families to deal with urgent problems that were affecting them. As such, participants reported that those programs were perceived to aim
at threatening masculinity as their goal was to empower women to disregard the authority of their husbands.

Another area in which this study adds to literature is that before participatory nutrition education is initiated, project planners should help to build community capacity by empowering households with ways of securing food and finances. This finding was apparent during post-recipe day interviews as participants reported that they were preparing foods that needed local resources unlike those that require commercial ingredients. In addition, participants stated that the readily available foods in the area made it possible for them to organize recipe day education through the contribution of foodstuffs. Finally, participants stated that practical lessons that were accompanied by tasting the prepared foods motivated them to try in their homes as both couples were familiar with the new dishes. Therefore, community based nutrition education programs that operate in food secure communities can maximize the adoption of new recipes while motivating couples to work together towards child care practices.

5.10 Human developmental stages, gender equality and gendered spaces

This research supports the resolution made at the end of the International Centre for Research on Women (ICRW) conference in 2007 (Green, 2007) and a study conducted by Crooks, Goodall, Jaffe & Baker, (2007) and Esplen (2006), that everybody regardless of gender and age should be involved in gender equity movements to effectively address household gender imbalances. The window of hope is banked on the current generation of boys and girls because they are future couples and decision makers:

“With a growing gender equality movement, it is possible that the next generation of young men will grow up in a society where mutual respect, support and a shared sense of responsibility between partners is the norm” (Green, 2007 page 4)

In this study, recipe day organizers stated that stakeholders agreed that boys and girls should be allowed to attend the sessions and they be informed in advance. The aim was that perhaps they can understand that domestic work is gender neutral, and that household gender equality has a positive impact on the health of family members. As reported in this study, in this part of Malawi, the failure to impart gender equality knowledge while young leads to a social construction of masculinity which involves refraining from doing
domestic work. According to Ashwin & Lytkina (2004), men who do domestic work in a society that regards domestic work as a feminine responsibility encounter a sense of identity crisis and a weak sense of themselves. In this study, boys were reported and observed performing domestic chores after recipe day nutrition education. Many fathers stated that they were encouraging boys to be involved in domestic work and they pointed out that boys have managed to reduce the time that women spend in collecting water. Half of the participants indicated that the more the young generation can be involved in domestic work, the more they can acquire housework skills which are one of the cited factors for the current fathers’ failure to perform domestic chores.

This research also support studies that indicate that space, place and time reproduce gendered division of labour in different societies (McDowell, 1993; Massey, 1991). As observed by McDowell & Massey (1984) in Durham England, there was a societal perception in the nineteenth century that men were breadwinners as they were mandated to work in coal mines while women were regarded as housekeepers. This view that women’s place is in the home produced a patriarchal society which was oppressive to wives. Currently, women in England have joined the waged-labour force and they are occupying various spaces because of changes in social morals and in the political economy. In my research, gendered spaces were thought as one of the important avenues and were used to justify household gender roles. According to the norms of the area, men and women occupy different spaces and place in the society. Any spaces that are related to domestic work and food preparation were reported to belong to women while public spaces especially entertainment centres belong to men. These spaces were important because they act as an ongoing secluded initiation ceremonies for the boys and girls. During recipe day nutrition education, the theme of gendered spaces was not fully discussed although couples were encouraged to work together in the households. Participants should be given chances to debate ways in which communities may negotiate secluded spaces which can allow both sexes to occupy or have secluded spaces while fostering a greater equity in division of labour. Further research is needed to understand what happens in gendered spaces and what programs can be initiated so that the kitchen, firewood and water collection spaces should be gender neutral. Unless individuals in this
society can freely occupy any space regardless of sex, gender campaigns to change the division of labour cannot be effectively implemented in the households.

5.11 Local technology and female labour displacement

Evidence from developing countries shows that men take over the responsibility of women’s tasks when such activities are mechanized (Ahmed, 1983; Boserup, Bereano & Malloy, 1984). In addition, Cresswell & Sheikh (2009) indicated that successful adoption of technology is achieved when they are developed with active involvement of final users. This research supports these two arguments as I found that the devised wooden wheelbarrows in the study area after recipe day education encouraged men and boys to take part in transporting basic household items. Participants reported that the introduction of the wheelbarrow has reduced women’s number of trips to the water collection points. The wooden wheelbarrow is also used by some men to transport maize to the mill which has reduced women’s work load as they are primary transporters of these items on their heads.

During pre-recipe day interviews, husbands explained that they could take a greater role of collecting water and transporting farm items if they had a bicycle or a wheelbarrow. The reason was that carrying items on the head is an embarrassing task for a man because such tasks are associated with feminine attributes. These remarks agrees with studies that were done by Bryceson and Howe (1993), Porter (2002) and Kes & Swaminathan (2006) who stated that labour saving domestic technologies which target different needs of men and women can greatly reduce the burden of women in developing countries. In northern Malawi, men who were involved in carrying water using the wheelbarrow reported that they were not as shy as they were not carrying the load on their heads. In addition, they acknowledged that they did not encounter any discouragement from friends -a thing that may be an impact of community members’ attendance to recipe day education. Although participants explained that bicycles and wheelbarrows can motivate husbands to be engaged in domestic work, in reality none of participants who have these resources stated that they were using them in performing domestic chores. This context agrees with literature which indicates that despite having advanced household technology, North American men do less domestic work (Bianchi, Milkie, Sayer & Robson, 2000; Boserup et al., 1984). Therefore, further research should be done.
to understand how technology can be used as a tool for promoting household gender equality.

5.12 Conclusions

This study has found that women in northern Malawi perform the majority of domestic work in addition to being involved in all household productive activities. The domestic chores that women perform are critical for the sustainability of life of all family members as they involve household sanitation and food preparation. Participants identified a number of factors that foster and exacerbate an unequal gendered division of work in the households. They include *lack of time* on the part of husbands even though they have more leisure time, and *biological factors*, which are a perception that women’s contamination associated with birth justify husbands to be exempted from some “dirty tasks”. In addition, people reported a *social obligation*, in that community members consider domestic work as the responsibility of women and lack of fathers’ childcare skills such as cooking all contributes to gender inequality. These factors support various household theories such as gender role ideology and gender construction model that explain factors that determine the division of domestic work amongst couples.

The findings in this study are consistent with work from Zambia, Kenya and Malawi (Biran et al., 2004; Moore, & Vaughan, 1987) that shows that women, unlike men perform their household roles simultaneously. Drawing water, attending to the mills and fetching firewood was the most cited activities that pose great burden to women as they took place away from the households. These productive spaces are assumed to be specifically for women which distract husbands to be involved in such activities.

This study also supports the literature that highlights that plant products are the major source of food nutrients for children in rural Malawi. Women expressed more knowledge of child nutrition than men but they were constrained by weak bargaining power to pool resources towards preparation of nutritious foods. Most participants did not consider that there was a link between children’s poor health and household gender equality. Most participants were familiar with immediate cause of poor child health and most of them stated diseases and lack of food.
Recipe day education in this research acted as a medium whereby participants shared ways in which they can promote the health status of children in the area. Through brainstorming, members were able to understand that child malnutrition can be addressed through collaboration at the household and community level. Some of the identified reasons for gendered division of domestic work were resolved during the discussions. For example, all participants were engaged in acquiring food preparation skills through cooking various foods. In addition, cultural barriers that dissuade men from using domestic resources were debated upon and a resolution was made that men should use such resources. Finally, the availability of community leaders and elders encouraged couples to perceive culture as dynamic and that it should not be seen as a stumbling block for men to be engaged in domestic work and child care.

Participatory education as observed during post-recipe days has a potential of enhancing child care knowledge and motivating couples to feed their children with diverse foods. The acquired food preparation skills were demonstrated through preparation of soy milk, sorghum porridge and futili which people were not consuming before. It was also observed that home processed soy milk needs to be used the same day it has been prepared as it get thicker the next morning.

It has also been observed that participatory nutrition education has the potential of promoting a gender egalitarian attitude amongst couples. This was observed through fathers’ involvement in domestic work such as collecting water from the wells- a job that was previously regarded as only for women. In addition, recipe day education has shown that it has a potential of improving the relationship of couples. Participants reported that they were able to discuss ways in which they can improve the health status of their children. One way was through discussing the food that the family is going to eat the following day which prompted fathers to take part in making sure that food is available in the households.

5.13 Policy and Development Program Implications
This study may be useful to policy makers, development organizations and advocacy groups aiming at addressing child malnutrition through household gender equality and community-based participatory education. Firstly, this research suggests that
community members appreciate gender and nutrition education programs that are a component of existing projects which aim at addressing perennial problems that affect families in the area. In the case of this study, participants’ cooperation was based on their membership to the SFHC project that has empowered households to be food secure. Therefore, planners should include household gender equality messages alongside programs that can address immediate causes of poor child health such as agricultural projects and primary healthcare.

Secondly, this research also proposes that participants’ adherence to the community-based programs depends on the mutual trust between policy makers, scholars and community members. In this case, representatives of beneficiaries should be involved in all stages of the project such as planning, monitoring and evaluation. For example, before this study was initiated, FRT members, community promoters and SFHC staff drew a one year plan of action including all activities to be implemented in the year 2012/2013 agricultural season. Community-based nutrition education in which my research is based on was one of activities that were planned. Proper planning that involves representatives of beneficiaries assisted to inform all households in the research area to be aware of the recipe days in time. All necessary resources were sourced, venues were booked and important stakeholders such as community leaders were informed in advance. In this case, communities owned the project as such there was a mutual cooperation amongst project planners, a researcher and concerned citizens which made the implementation of the participatory nutrition education easier.

In addition, this study also suggests that community-based nutrition education should be accessible to all community members regardless of age, gender and social economic status. Participants explained that some projects were ineffective because they select and train a few community members with an aim of imparting nutrition knowledge to the community members. The reason was that the trained individuals did not have the platform and resources to implement the program. These views were gathered when I was asking participants and stakeholders to suggest ways of improving the recipe day nutrition education. The majority of them applauded a non-selective strategy which portrays everybody as an important person in the project. The inclusion of all community members
as observed in this research was critical as it created a supportive environment for social change as some wives and husbands were observed and reported implementing gender equality and food preparation skills that they got from the nutrition education.

Furthermore, this research proposes that community-based nutrition education objectives can be adopted by the beneficiaries if affordable and locally available resources are used. For example, this research has shown that participants managed to prepare foods such as soy milk, sweet potato and banana futali because they are home grown and do not require purchased ingredients. Contrary to this, participants reported that they did not prepare doughnuts and bean balls that they learnt during recipe days because the recipes require commercial cooking oil which is expensive for the majority of the participants.

Lastly, this study suggests that before introducing community-based nutrition education that focuses on gender and child feeding practices, planners should first understand how couples participate in various domestic work. Having background information of the local community has a potential of tailoring the intervention to address the prevailing factors that hinder couples from working together towards childcare. For example, this research found out that socio-cultural factors were the main causes of gender inequality in the division of domestic work. The intervention was organized in such a way that people of all ages and responsibilities should be available to support and confirm those teachings if they are compatible with their culture and make suggestions on how to adjust those that are not in line with their culture. In this case, the intervention was acceptable by the local people as it was organized to accommodate local views.

5.14 Future research

Many opportunities exist for future research concerning community-based participatory nutrition education, gender roles and child care in northern Malawi. First, to validate the results of this research, there is a need to conduct longitudinal studies that compare couples’ participation in domestic work in control and intervention communities. In such a research design, there is a need to have a large sample size which can be randomly selected and matching the families based on food security and other demographic factors. This research design is rigorous and it can help to establish whether
community-based participatory education really promotes more equal division of domestic work and childcare practices (Morrison, 2001; Mercer, DeVinney, Green & Dougherty, 2007). Until that time, I cannot confidently attribute the observed change in household gender equality and child feeding practices to recipe day education alone as other spurious factors may also be linked to the outcomes.

Further exploration of the impact of community-based participatory nutrition education on gender roles and childcare can be done by focusing on the quantity of food intake and anthropometric measurement of children (Crespi, Alfonso, Whaley & Wang, 2012). There is a need to have a longitudinal study aiming at comparing nutritional status of children whose parents attend recipe day education with children in a control group with similar anthropometric status at the baseline. Such a study may help to confirm if children from the intervention community increased consumption of complementary foods that can be manifested through weight or height gain.

Lastly, research can be conducted to find out if recipe day nutrition education with a focus on household gender equality can reduce the time that women spent in doing multiple productive and domestic chores in the first two years of child birth. According to the World Bank (2006), the first two years of child’s life is a “window of opportunity” for addressing under nutrition in children through exclusive breastfeeding for the first six months and provision of food and care during the crucial period of growth from 6 to 24 months. This opportunity is missed because mothers are burdened with more tasks with little time to attend to the children’s nutritional and health needs. If participatory nutrition education can be tailored to make couples understand the importance of dedicating more time to the child’s health needs, then fathers may be willing to allocate their time to domestic work.
REFERENCES


Kljajevic, B. (2011). *Women's work is never done: a sociological exploration of gender into the household division of labour and mothering roles and its contemporary*
implications for women in performing the “second shift” (Doctoral dissertation, Murdoch University).


Appendix 1: Western University Ethics Approval

Use of Human Participants - Ethics Approval Notice

Principal Investigator: Dr. Rachel Bezner Kerr
File Number: 102458
Review Level: Full Board
Approved Local Adult Participants: 0
Approved Local Minor Participants: 0
Protocol Title: Nutrition education, gender roles and child care in the household: A case study of Ekwendeni in northern Malawi 1897105
Department & Institution: Social Science/Geography, Western University
Sponsor: Molight Foundation

Ethics Approval Date: May 22, 2012 Expiry Date: August 31, 2012

Documents Reviewed & Approved & Documents Received for Information:

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<td>Letter of Information &amp; Consent</td>
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This is to notify you that the University of Western Ontario Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the applicable laws and regulations of Ontario has granted approval to the above named research study on the approval date noted above.

This approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the NMREB’s periodic requests for surveillance and monitoring information.

Members of the NMREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussions related to, nor vote on, such studies when they are presented to the NMREB.

The Chair of the NMREB is Dr. Riley Hinson. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Signature

Ethics Officer in Contact for Further Information

This is an official document. Please retain the original in your files.

The University of Western Ontario
Office of Research Ethics
Support Services Building Room 5150 • London, Ontario • CANADA – N6G 1C9
PH: 519-661-3036 • F: 519-850-2466 • ethics@uwo.ca • www.uwo.ca/research/ethics
Appendix 2: Informed Consent for In-depth Interview

26 April, 2012

Invitation to Participate in In-depth Interview and free listing exercise

I am Emmanuel Chilanga, a Masters student under the supervision of Dr Rachel Bezner-Kerr in the Department of Geography at Western University in Canada. I would like to invite you to participate in this study. The purpose of the study is to assess the impact of nutrition education on household gender roles and child care among fathers and mothers with under-five children. I would like to invite you to participate in the study as it would assist our understanding of the effectiveness of the community-based nutrition education program in promoting household gender roles and child care practices.

If you agree to participate in the study you will be asked to answer questions. The questions will cover topics such as information on your daily household activities, Knowledge of child nutrition, your involvement in child care practices and food preparation. No personal information will be recorded in this interview and no personal identification information will be used in any report or publications. All data will be aggregated and no identifiable information will be used in the results. The interviews will be taking place at the safe place where the researcher and the participant deem fit. There will be two interviews, the first will be conducted this week of May, 2012 and the other will be conducted in August, 2012. The interview should take approximately 40 minutes to 1 hour to finish. I will be audio recording the discussions so that I will be able to review whatever we are going to discuss. There are no other known risks associated with your participation in this study apart from discomforts related to discussing your household gender roles in relation to child care.

All personal information collected for the study will be kept confidential. This will be kept in a secured cabinet and password protected laptops. The collected data will not be destroyed because it will assist other researchers to evaluate the nutrition education project in future. The findings will be presented in aggregate form. We will make all efforts to maintain anonymity.

Your participation is completely voluntary and you may refuse to participate, refuse to answer any questions or withdraw from the study at any time. There is no penalty for withdrawing or not answering any questions. Answering these questions means that you are aged between 18 and above and have agreed to participate in the survey. You may keep a copy of this information sheet.

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Manager, Office and Research Ethics, Western University or the Principal Investigator or primary researcher of the study:

Dr Rachel Bezner-Kerr
Emmanuel Chilanga
Esther Lupafya

I have read the Letter of Information, have had the nature of study explained to me, and all questions have been answered to my satisfaction and I agree to participate.

Participant Name _______________________Participant Signature____________________
Date________________________Investigator’s Signature____________________
Date____________
Appendix 3: Research Assistant Confidentiality Agreement form

This study “Assessing the impact of Nutrition education, on gender roles and child care in the household in Ekwendeni, northern Malawi” is being undertaken by Emmanuel Chilanga of Western University.

The study has four objectives:

1. What is the effect of nutrition education on gender roles with respect to child care and complementary feeding practices?

2. What is the effect of nutrition education on gender roles with respect to household food preparation of complementary foods?

3. What are the effects of nutrition education on child caregivers’ knowledge with regard to food recipes for complementary feeding?

4. What is the effect of nutrition education on household dietary diversity?

Data from this study will be used in master thesis to assess the impact of community based nutritional education on gender roles and childcare practices in the households.

I, ________________________________, agree to:

1. Keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g. tapes, transcripts) with anyone other than the Principal Investigator(s);

2. Keep all research information in any form or format secure while it is in my possession;

3. Return all research information in any form or format to the Principal Investigator when I have completed the research tasks;

4. After consulting with the Principal Investigator, erase or destroy all research information in any form or format regarding this research project that is not returnable to the Principal Investigator (e.g. information sorted on computer hard drive).
Appendix 4: In-depth interview Guide (phase one)
IN-DEPTH INTERVIEW GUIDE FORM NUMBER........................................

DATE AND TIME .......... RESPONDENT ID......... INTERVIEWER ID........

<table>
<thead>
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<th>Age</th>
<th>Education</th>
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<th># of children under 3</th>
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**Questionnaire**

Description of pile sort: I have this pack of cards, which contains child care activities done in the household. Can you sort the cards into 3 groups? The first group should be those that you mostly do, the second group should be those activities that your partner mostly does, and the third are the activities that you share equally.

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<thead>
<tr>
<th>Card number/s</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14</td>
<td></td>
</tr>
</tbody>
</table>

1. Mostly done by the respondent
2. Mostly done by the respondent’s partner
3. Done equally by both couples
4. Can you explain more why the childcare activities listed in column 2 are done by you and those in column 3 are mostly done by your spouse?
   - What makes this task (pick a specific one) women’s work? What makes this task men’s work?
   - Can you explain more about what is women’s work? What about men’s work?
5. What do you think of this division of child care activities? Do you think it is fair?
6. Can you explain how other families in your area share the child care activities? Can you think of an example of a family that does it differently? Tell more about that example. What do you think of it? What do other people say about this case?
7. Have you ever had a disagreement with your partner about the distribution of child care activities? If so can you tell me about what happened? Does this kind of conflict happen often?
<table>
<thead>
<tr>
<th>8</th>
<th>How does your household decide about what to feed the child? Tell me with some examples</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>Can you mention the foods that you mostly give your child?</td>
</tr>
<tr>
<td>10</td>
<td>Can you explain more how do you care for your child when you are working in your fields?</td>
</tr>
</tbody>
</table>

| 11 | Housework activities | 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24 |
| 12 | Mostly done by the respondent’s partner |
| 13 | Done equally by both couples |
| 14 | Can you explain more why the work activities listed in column 2 are done by you and those in column 3 are mostly done by your spouse? What makes this task (pick a specific one) women’s work? What makes this task men’s work? Can you explain more about what is women’s work? What about men’s work? |
| 15 | What do you think of this division of child care activities? |
| 16 | Can you explain how other families in your area share the housework activities? Can you think of an example of a family that does it differently? Tell more about that example. What do you think of it? What do other people say about this case? |
| 17 | Have you ever had a disagreement with your partner about the distribution of child care activities? If so can you tell me about what happened? Does this kind of conflict happen often? |
| 18 | Do you think the division of household work affects your child’s health? Can you tell me more about that? If yes, explain more. If no, explain more. |
| 19 | Do you think the current division of household work and child care activities should change? (If no), can you tell me more about why it should stay the same? (If yes), can you tell me more? How do |
Thank you for all your assistance and time. [Remind them about future visit]

Do you have any questions for me?
Appendix 5: In-Depth interview guide (phase two)

**IN-DEPTH INTERVIEW GUIDE**

<table>
<thead>
<tr>
<th>FORM NUMBER</th>
<th>DATE AND TIME</th>
<th>RESPONDENT ID</th>
<th>INTERVIEWER ID</th>
</tr>
</thead>
</table>

| Age | Education | # of people in household | # of children under 3 | Type of marriage | Main source of income | Who is involved in providing household income | Differences | More/less |
|-----|-----------|--------------------------|----------------------|-----------------|----------------------|--------------------------------|-----------|
| 1   | Can you tell me the objectives of recipe day education that you attended? | | | | | | | |
| 2   | Is there anything new that you learnt during recipe day education? | | | | | | | |
| 3   | What new ideas are you putting into practice and how? | | | | | | | |
| 4   | Which ideas are you not practicing and why? | | | | | | | |

**Description of pile sort:** I have this pack of cards, which contains childcare activities done in the household. Can you sort the cards into 3 groups? The first group should be those that you mostly do, the second group should be those activities that your partner mostly does, and the third are the activities that you share equally.

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<thead>
<tr>
<th>Card number/s</th>
<th>Additional information</th>
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<tbody>
<tr>
<td>1,2,3,4,5,6,7,8,9,10,11,12,13,14</td>
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</tbody>
</table>

<table>
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<th>Question</th>
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<th>Additional information</th>
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<td>Mostly done by the respondent</td>
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<tr>
<td>6</td>
<td>Mostly done by the respondent’s partner</td>
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<tr>
<td>7</td>
<td>Done equally by both couples</td>
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<tr>
<td>8</td>
<td>Can you explain more why the childcare activities listed in column 2 are done by you and those in column 3 are mostly done by your spouse?</td>
<td>What makes this task (pick a specific one) women’s work? What makes this task men’s work? Can you explain more about what is women’s work? What about men’s work?</td>
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<tr>
<td>9</td>
<td>What do you think of this division of child care activities?</td>
<td>Do you think it is fair?</td>
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<tr>
<td>10</td>
<td>Can you explain how other families in your area share the child care activities? Can you think of an example of a family that does it differently? Tell more about that example. What do you think of it? What do other people say about this case?</td>
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<td>11</td>
<td>Have you ever had a disagreement with your partner about the distribution of child care activities? If so can you tell me about what happened? Does this kind of conflict happen often?</td>
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<td>12</td>
<td>How does your household decide about what to feed the child? Tell me with some examples</td>
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<td>13</td>
<td>Can you mention the foods that you mostly give your child?</td>
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<td>Can you explain more how do you care for your child when you are working in your fields?</td>
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<td></td>
<td>Housework activities</td>
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<td>15</td>
<td>Mostly done by the respondent</td>
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<tr>
<td>16</td>
<td>Mostly done by the respondent’s partner</td>
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<tr>
<td>17</td>
<td>Done equally by both couples</td>
<td></td>
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<tr>
<td>18</td>
<td>Can you explain more why the work activities listed in column 2 are done by you and those in column 3 are mostly done by your spouse? What makes this task (pick a specific one) women’s work? What makes this task men’s work? Can you explain more about what is women’s work? What about men’s work?</td>
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<td>19</td>
<td>What do you think of this division of child care activities?</td>
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<td>20</td>
<td>Can you explain how other families in your area share the housework activities? Can you think of an example of a family that does it differently? Tell more about that example. What do you think of it? What do other people say about this case?</td>
<td></td>
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<tr>
<td>21</td>
<td>Have you ever had a disagreement with your partner about the distribution of child care activities? If so can you tell me about what happened? Does this kind of conflict happen often?</td>
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<tr>
<td>22</td>
<td>Do you think the division of household work affects your child’s health? Can you tell me more about that? If yes, explain more.</td>
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</tbody>
</table>
If no, explain more.

<table>
<thead>
<tr>
<th>23</th>
<th>Do you think the current division of household work and child care activities should change? (If no), can you tell me more about why it should stay the same? (If yes), can you tell me more? How do you think it should change?</th>
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</table>

Thank you for all your assistance and time. Do you have any questions for me?
Appendix 6: Child care and housework identification table

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<thead>
<tr>
<th>Number</th>
<th>Childcare activities</th>
<th>Housework activities</th>
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<tbody>
<tr>
<td>1</td>
<td>Feeding the child</td>
<td>Cleaning kitchen utensils</td>
</tr>
<tr>
<td>2</td>
<td>Cooking food for the child</td>
<td>Fetching food</td>
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<tr>
<td>3</td>
<td>Changing diapers</td>
<td>Drawing water</td>
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<tr>
<td>4</td>
<td>Taking the child to under five clinic “scale”</td>
<td>smearing the house</td>
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<tr>
<td>5</td>
<td>Washing child’s clothes and beddings</td>
<td>Going to the maize mill</td>
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<tr>
<td>6</td>
<td>Finding food for the child</td>
<td>Fetching money for the family</td>
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<tr>
<td>7</td>
<td>Playing with the child</td>
<td>Chopping firewood</td>
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<tr>
<td>8</td>
<td>Findings toys for the child</td>
<td>Cooking</td>
</tr>
<tr>
<td>9</td>
<td>Escorting the child to nursery school</td>
<td>Fetching firewood</td>
</tr>
<tr>
<td>10</td>
<td>Taking the child for medical treatment</td>
<td>Caring for the livestock</td>
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<tr>
<td>11</td>
<td>Nursing the sick child</td>
<td>Pounding food</td>
</tr>
<tr>
<td>12</td>
<td>Preparing the bed for the child</td>
<td>Attending to the home garden</td>
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<tr>
<td>13</td>
<td>Bathing the child</td>
<td>Digging the rubbish pit</td>
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<tr>
<td>14</td>
<td>Carrying the child/Baby sitting</td>
<td>Bed making and sitting room making</td>
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<td>15</td>
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<td>Taking care of the surrounding</td>
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<td>16</td>
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<td>Ironing</td>
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<td>Cleaning the house/ mopping</td>
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<td>18</td>
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<td>Shopping clothes</td>
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<td>19</td>
<td>Home nursing</td>
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<td>20</td>
<td>Digging and building a pit latrine</td>
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<tr>
<td>21</td>
<td>Herding livestock</td>
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<tr>
<td>22</td>
<td>Washing clothes</td>
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Appendix 7: Participation of couples in Child care activities (Phase 1)

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KEY: H= mostly done by Husband    W= mostly done by Wife       B= done by both couples
Appendix 8: Participation of couples in Child care activities (Phase 2)

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KEY: H= mostly done by Husband  W= mostly done by Wife  B= done by both couples
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