

GENDERED POVERTY IN PEASANT HOUSEHOLDS: A CASE STUDY OF NORTHERN MOZAMBIQUE

by

Diksha Arora

A dissertation submitted to the faculty of
The University of Utah
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Economics
The University of Utah
August 2016

Copyright © Diksha Arora 2016

All Rights Reserved

The University of Utah Graduate School

STATEMENT OF DISSERTATION APPROVAL

The dissertation of Diksha Arora
has been approved by the following supervisory committee members:

<u>Günseli Berik</u> ,	Chair(s)	<u>31 May 2016</u> Date Approved
<u>Codrina Rada von Arnim</u> ,	Member	<u>31 May 2016</u> Date Approved
<u>Rüdiger Lennart von Arnim</u> ,	Member	<u>6 June 2016</u> Date Approved
<u>Nicky M. Pouw</u> ,	Member	<u>3 June 2016</u> Date Approved
<u>Haimanti Bhattacharya</u> ,	Member	<u>3 June 2016</u> Date Approved

by Thomas N. Maloney , Chair/Dean of
the Department/College/School of Economics
and by David B. Kieda , Dean of The Graduate School.

ABSTRACT

This dissertation examines the nature and consequences of gendered time poverty in northern Mozambique. Evidence from sub-Saharan Africa indicates that women are more likely to be time poor than men as they bear the double burden of productive and reproductive work in the household. This gender division of labor, dictated by social norms, constrains women's freedom, agency, and well-being. Based on fieldwork in the Nampula province of Mozambique in 2013 this dissertation examines gender differences in time poverty through both Foster-Greer-Thorbecke (FGT) set of indexes and a measure of work intensity. The analysis shows that women are both more time poor compared to men and they are more likely to experience high levels of work intensity. The investigation of the determinants of time poverty shows that women's access to economic resources, notably education and assets including land, has no bearing on women's time poverty, and gender is the main determinant of time poverty.

Given women's critical role in food production and provisioning, the dissertation examines the consequences of unequal gender roles and time poverty of women for household food security and nutrition outcomes. Analysis focuses on the likely adverse effects of unforeseen events, such as illness in the family, on food security of smallholder farming households. The theoretical model and simulations of the model show that an unexpected crisis increases the demand for labor provided by the woman to which most women respond by reducing their work hours on the farm and by reducing their leisure time. The latter outcome results in deterioration of the woman's labor productivity. Overall, the household suffers a loss in farm production, which is the main source of household's food consumption.

The dissertation contributes both new evidence on gendered time poverty and its consequences and a gendered model of the agricultural household that integrates role of social norms. The findings suggest that the efforts to increase agricultural productivity need not focus exclusively on agricultural aspects. The policy emphasis on reduction of

women's unpaid workload in the short run along with a target to create redistribution of reproductive work in the long run would yield considerable benefits for agricultural sector.

To the people of Nampula.

CONTENTS

ABSTRACT	iii
ACKNOWLEDGEMENTS	vii
Chapters	
1. INTRODUCTION	1
1.1 Study region	4
1.2 Data collection	5
2. A GENDERED ACCOUNT OF HISTORY OF NORTHERN MOZAMBIQUE ..	7
2.1 Makuas in northern Mozambique	8
2.2 History of northern Mozambique	13
2.3 Current state of gender relations in Nampula	20
3. GENDER DIFFERENCES IN TIME POVERTY	22
4. REVIEW OF LITERATURE: WOMEN'S ROLE IN AGRICULTURE	23
4.1 Gender differential in agricultural productivity	24
4.2 Time-poverty, women's health and agricultural production	25
5. A GENDERED MODEL OF THE PEASANT HOUSEHOLD	28
6. CONCLUSIONS	29
6.1 Main findings	29
6.2 Implications	31
6.3 Future research	33
REFERENCES	34

ACKNOWLEDGEMENTS

This dissertation is a result of a long and enriching learning experience. I am exceedingly grateful and indebted to several persons and institutions whose contributions and support made it possible to complete this dissertation.

To begin with I want to thank the people of Nampula who welcomed me and allowed me to become a part of their community. I am thankful to them for dedicating their precious time to participate in the interviews and discussions. This work would not have been possible without them. I will always remember the countless moments of joy that I experienced while living and working in Nampula.

I do not have enough words to thank my adviser, Günseli Berik who spared no effort to support me throughout my PhD program. From securing the funding for my field research to countless reviews of different versions of my papers, her support and guidance is instrumental in all aspects of developing this dissertation. She always encouraged me to present my work at international conferences, which exposed me to a wide variety of feminist research and helped me receive valuable feedback on my work. Her wisdom, positive guidance and criticism has helped me become a better researcher. I consider myself fortunate to have a great mentor like Günseli.

I am deeply thankful to Codrina Rada with whom I started developing the idea for the gendered model of the household. The journey to complete this model has been long and bumpy. At times, when I doubted myself she always gave me confidence. This dissertation would not be possible without her expertise and friendship.

Rüdiger von Arnim has been very helpful and encouraging since the early days of my PhD program. I greatly appreciate his support in securing the funding for the field study in Mozambique. I am also thankful to him for helping me learn *Mathematica*.

I am deeply thankful to late Prof. Steve Reynolds who guided me in developing the proposal for my dissertation and helped me secure funding for my research.

My association with Nicky Pouw begun at the summer school at University of Am-

sterdam in 2012. From the very first meeting, she has been very helpful in guiding me through the field research part of my dissertation. She taught me techniques for generating qualitative data, a training I lacked owing to my background in Economics. She was kind enough to share her field experience in Uganda and gave me helpful hints to integrate in the communities. I am also thankful for her thorough comments on the different versions of my papers.

I am grateful to Haimanti Bhattacharya for her valuable comments on my papers.

My sincere thanks to Prof. Cheryl Doss for her constructive comments on developing one of the chapters of my dissertation. I am also thankful to her for giving me an opportunity to work as her research assistant on a project on “Gender differentials in agricultural productivity.”

Special thanks to Ossufu, my research assistant and translator in Nampula without whom I could not imagine completing my field research. His knowledge of local regions and familiarity with the culture and life of people in Nampula made my field experience much easier. I am thankful to his dedication and companionship in walking several miles each day to reach most distant villages to conduct interviews. I also appreciate his help in translating the recordings of discussions and interviews from Makua to Portuguese.

This work would not be possible without the generous financial support from Association for Social Economics (ASE), the Graduate School and the Dept of Economics at University of Utah.

I am particularly thankful to Women and Law in Southern Africa (WLSA) for their support during my visits to Mozambique. I have learnt a lot from the interviews and informal discussions with Maria Arturo, Ana Laforte and Terezinha da Silva during my stay at WLSA’s office in Maputo.

I am greatly thankful to Rui Matos, my dear friend in Nampula who helped me connect with local district officers in Mogovolas and Mogincual districts. He ensured my safety by connecting me to the local police and made regular visits during my stay to ensure I have access to all my necessities.

I would also like to thank my dear friend Corina Besliu in Salt Lake City who has supported my work and gave me confidence during the spells of frustration.

I really appreciate the help from my friend Lea Barreau-Tran in Mozambique who

helped me learn ways to navigate around the country.

Last I would like to thank my family for their love and patience during this process.

In the end, I alone take the responsibility for any errors or misrepresentations in this dissertation.

CHAPTER 1

INTRODUCTION

“A woman’s work begins before the sun rises. She fetches water, cleans dishes, pounds the cassava, cooks, feeds the children, sends children to school, walks to the farm, cleans the weeds, fetches firewood, cooks again. Even at night a woman’s work does not end.”

“A woman’s day is long, very very long.”

“We [women] work and they [men] control all the produce. If we [women] do not work, they [men] cannot earn a sufficient farm income.”

Women’s focus group in Nampula, Mozambique

These words of resilient and hard-working women in Mozambique highlight the crucial role of women in the survival of the household. At the same time, their words express a sense of exasperation in enduring the obligations imposed by gender roles of the society. Across sub-Saharan Africa, women bear the double burden of productive and reproductive work and are more likely to be time poor than men. Time poverty is a situation where an individual is forced to make trade-offs between activities (paid and unpaid work or work and leisure) due to competing claims on one’s time. For a gendered analysis of time poverty, it is important to understand what motivates (constrains) men’s and women’s choices between inputs to paid work, unpaid work and leisure.

In mainstream economics, economic motivation and utility maximization are dominant factors determining the choices between work and leisure. Feminist economists, however, argue that women’s and men’s choices are not autonomous, but rather are embedded in the gendered institutions of the household and the society (Agarwal, 1997; Gammage, Kabeer, & van der Meulen Rodgers, 2016; van Staveren & Odebode, 2007). Therefore, women’s time poverty is not an outcome of women’s autonomous choice. It is an indication of women’s constrained freedoms and agency. The decisions regarding allocation of time across paid, unpaid work and leisure, to a large extent, are governed by social norms.

The empirical evidence from Africa indicates that women lack control over their own labor/time and the fruits of their labor (Blackden & Wodon, 2006a; Doss, 2014; Kes & Swaminathan, 2005; Udry, 1996; van Staveren, 2013). These issues represent an important area of concern in the feminist scholarship concerned with gender equality. Moreover, agricultural policy concerned with the challenge of sustaining food security in sub-Saharan Africa concedes the importance of understanding and targeting gender-based constraints in agriculture. These concerns along with feminist scholarship that demonstrated shortfalls in women farmers' productivity compared to men have contributed to growing policy attention to women's access to productive resources (Adesina & Djato, 1997; Goldstein & Udry, 2008; Saito, Mekonnen, & Spurling, 1994). In comparison, there has been limited attention to inequality in gender division of labor in the household, which also constrains women's agricultural productivity (Jacoby, 1992). Although this particular strand of literature point to lack of labor on women's plots as one of the factors responsible for lower yields on women's plots. Most of this literature concludes with a speculation that women's unpaid work burden constrains their labor supply in paid/agricultural work.

Given women's critical role in food production and provisioning in sub-Saharan Africa, the time-poverty of women has important bearing on household food security and nutrition outcomes. This dissertation focuses on gender differences in time poverty as a contributor to household's food production and consumption. The analysis is based on a field study that I conducted in Nampula province of Mozambique during May-August 2013. This study makes an empirical contribution to the time poverty literature by assessing the extent and nature of gendered time poverty and the factors that shape it. In addition, using an inductive approach in mining the qualitative evidence from the field study, this dissertation contributes a conceptual framework to analyze the linkages between time poverty, labor productivity and farm production. The results from simulations on the theo-retical model presented in this dissertation contribute empirical evidence on the impact of women's work burden in reproductive sector on their labor supply and productivity on the farm.

The methodology for generating the primary data combines different qualitative and quantitative techniques. For the purpose of this work - focused on intrahousehold power relations - I restricted my sample households to only those with couples. In the field survey, I gathered socioeconomic data of the household and time-use data of the man and the

woman in the household.¹ This is one of the first time-use studies in Mozambique. I generated qualitative evidence using different techniques - participant observation, focus group discussions (FGD), open-ended interviews and life stories. I focus on qualitative information because the anecdotal evidence can be helpful in interpreting the outcomes learned from quantitative analysis (Berik, 1997; Olmsted, 1997). It can also help generate hypotheses to be examined (van Staveren & Odebode, 2007). The analysis of the field data goes step-by-step to document the gender differences in the extent and intensity of time poverty and then investigate the impact of time poverty on labor allocation decisions, productivity and farm production.

First, I examine the gender inequality in distribution of paid and unpaid work as stemming from social norms and expectations. I estimate the extent of time poverty experienced by women and men, applying the *Foster-Greer-Thorbecke* (FGT) indexes of income poverty for the case of time poverty. In measuring time poverty I take into account multitasking of childcare with other activities, which often is a source of underestimation of women's workload, as women and survey enumerators often underreport and underrecord the amount of work women do. During fieldwork, I paid special attention to time-use related to care provision occurring concomitantly with leisure and other tasks. Participants, particularly women found it difficult to provide exact numerical responses. Therefore, I relied on open-ended interviews for questions related to division of labor. Regarding simultaneous care work, my research assistant and I inquired the women with young children on the ways in and times at which they cared for children. In addition, I used participant observation to record time-use of men and women, which served as a cross check for their responses in 24 hr recall. This technique was particularly helpful in obtaining a time measure for simultaneous care work. Throughout the duration of the field study my assistant and I lived in the villages, which allowed us easy access to participate and observe the activities of the people, except for the time spent inside the household during the night. Using primary and simultaneous time-use data I estimate a work intensity measure building upon the methodology presented in Floro and Pichetpongsa (2010).

In this study, the work intensity index includes the burden of unpaid work, which is

¹In sections related to demographic details, basic health status, asset ownership, decision making and income control I collected gender dis-aggregated data.

not considered by Floro and Pichetpongsa (2010). The results from time poverty analysis show that women are both more time poor compared to men and they are more likely to experience high levels of work intensity. Finally, I estimate the determinants of time poverty and show that women's access to economic resources, notably education and assets including land, has no bearing on women's time poverty.

In the next step, I examine the likely adverse effects of unforeseen events, such as illness in the family, on food security of smallholder farming households, given the existing unequal gender roles and time poverty differentials by gender. While there is ample empirical evidence that shows that increasing women's access to productive resources is instrumental to closing gender gap in agricultural productivity, women's time-poverty as a constraint to achieving higher agricultural productivity remains under-theorized and lacks empirical evidence. My study aims to address this gap by first, constructing a framework based on qualitative and quantitative data generated in fieldwork to capture the dynamics between time poverty, farm production and food security; second, building on the household models of Darity (1995) and Warner and Campbell (2000), I present a gendered model of the household incorporating the role of social norms in the choice problem of the man and the woman. The theoretical model presented in this dissertation hypothesizes that an unexpected event, such as a care crisis increases the demand for labor provided by the woman to which most women respond by reducing their work hours on the farm and by reducing their leisure time. The latter outcome is expected to have a negative effect on women's physical and mental health which will then cause a decline in their productivity on the farm. Simulations of this model show the adverse effects of unexpected shocks on farm production.

1.1 Study region

This dissertation addresses the above-mentioned research questions using a case study of Mozambique. Since early 2000s, Mozambican government has become more sensitive to concerns raised in the policy-oriented "gender in development" literature. Still, the level of human development (Human Development Index rank 178 out of 187 in 2013) and gender development (Gender Inequality Index rank 144 out of 149 in 2013) remains very low (UNDP, 2014). The political representation of women is one of the highest in Africa (39.2%

of seats in the parliament were held by women). Yet, the most important policy papers like National Action Plan for Women's Advancement (PNAM), Poverty Reduction Strategy Paper (PARPA), Gender Strategy in Agrarian Sector do not explicitly discuss the component of intrahousehold relations, particularly women's work burden in rural societies. This puzzle is explained by Casimiro (2004), who argues that while Mozambican women have occupied a prominent place in public space yet there is little change in women's position in the domestic space.

Given women's dominant role in the domains of food production, preparation and care provision, and high level of gender inequality in the country, Mozambique serves as a good case study to examine the consequences of the gender division of labor in the household for women's and family well-being. The region of my field study, Nampula province, is located in the north of Mozambique. It is one of the most populated provinces in the country. The growth rate of GDP in the province of Nampula has been lower than the country's average (UNDP, 2007). Compared to the national poverty incidence of 52%, in rural Nampula about 66% of the population live below the consumption poverty line (Alfani, Azzarri, d'Errico, & Molini, 2012). Social services, access to education, health care and basic infrastructure like water supply, sanitation, roads and transport are very poor, especially in the rural areas of Nampula. The province is dominated by one ethnic group, Makuas. Traditionally, Makuas are a matrilineal society, which follows the descent along the mother's lineage. The historical account of Makuas show that women had a favorable position in society, relative to women's status in the contemporary times. In the last century, due to the influence of patriarchal ideology brought in by Islam and Christianity, and the introduction and spread of capitalist tendencies brought by Portuguese colonial rule, several norms of the Makuas have disappeared. Although women's role in feeding the family remains the same, the value of their role and their status have deteriorated.

1.2 Data collection

The data used in this dissertation is from a field study titled "Gendered poverty in rural Mozambique" that I conducted in the Nampula province of Mozambique between May and August of 2013. In the quantitative module, the study used a household questionnaire to generate socioeconomic and time-use data from 225 households. After accounting

for missing values and incomplete information, the sample counts 206 households with complete information.

The data collection was done in two districts – Mogovolas and Mogincual. In terms of economic development, Mogovolas is a better performer while Mogincual is one of the poorest. The selected districts serve as a good representation of the province. Within the districts, the *postos* (administrative posts) and the villages in the *postos* were randomly selected. The selection of households was done using the purposive random sampling method. Only households with couples that is, the man and the woman living together with or without other members were considered. From the pool of households with couples, the selection of households for interview was random. Qualitative data is based on ten life histories of women, four focus group discussions with women and men separately, and observational recordings of respondents' daily activities.

CHAPTER 2

A GENDERED ACCOUNT OF HISTORY OF NORTHERN MOZAMBIQUE

In this chapter I take a step back in the history of northern Mozambique with a particular focus on the dominant ethnic group in this region, the Makuas. The Makua society in Nampula province follows matrilineal norms and customs where the distribution of power and the status is based on age and seniority in the lineage. The women in matrilineal society usually have favorable position because of the matrilineal residence pattern, which allows proximity to their kin and the right to inherit land through the mother. During my fieldwork I found that most of the matrilineal norms among the Makuas in Nampula, as described in earlier writings, have disappeared. What are the factors responsible for changes in the matrilineal norms of the Makua society? What do these social changes mean for the status and role of women in today's Nampula? These questions are addressed in this chapter. I recount the major economic, social and political transformations in this region and analyze how those events have affected the position of Makua women and the relations between men and women in this society. The historical analysis in this chapter makes use of archival documents, secondary published and unpublished sources that I collected in Maputo in 2014.

The chapter is organized as follows: in the first section, I introduce the Makua society, their norms and practices. Then I discuss a brief history of northern Mozambique and analyze how the historical transformation of the political system has affected social and gender relations among the Makuas. In the last section, I discuss the implications of changes in matrilineal norms for women in today's Nampula.

2.1 Makuas in northern Mozambique

Makua is the dominant ethnic group in Mozambique, spread throughout four northern districts to the north of Zambezi river (Alpers, 1974; Martínez, 1989; Mbwiliza, 1991). They also form the largest ethnic group in eastern Africa (Martínez, 1989; Mbwiliza, 1991). It is known that the first Makuas reach eastern Mozambique between 800 and 1000 A.D. (Hafkin, 1973). E-Makhuwa is the common language, even though there are different dialects across various subethno groups of Makuas (Ferreira, 1958; Martínez, 1989).

The Makua society was primarily agrarian practicing shifting agriculture. Today, the Makuas in rural areas continue to practice agriculture as the main source of livelihood. Traditionally millet and sorghum were the staple crops, and *mandioca* (cassava) was introduced in 1769, which became the staple crop of Makua people (Mbwiliza, 1991). Cashew, cotton, sesame and groundnuts are the main cash crops. Along the coastal areas, fishing is an important agricultural activity (Tvedten, Paulo, & Rosario, 2006).

2.1.1 Social and cultural aspects of Makuas

The social and family structure of Makuas is very different from those commonly found in Western societies. Among the Makuas the descent is along the matrilineal line. Exogamy is the only permitted form of marriage, and the form of residence after marriage is matrilocal that is, the young man upon marriage moves to wife's household while the young woman stays with her kin. The inheritance of land is through the mother's lineage that is, a daughter inherits land from her mother. Early marriage is common among the Makuas.¹ Divorce is not too uncommon in the Makua society (Arnaldo, 2004; Arnfred, 2001). A small quarrel between the partners or being tired of the partner are reasons enough for a makua man or woman to dissolve the marriage (Conceição, 1960; Lopes, 1960).

The matrilineal clan is the basic unit of social and political organization and in the sphere of production (Martínez, 1989; Mbwiliza, 1991; Whiteley, 1954). The economic production in Makua society is based on the exchange of services between members of the lineage (Geffray, 2000; Whiteley, 1954).² The clan known as *Nloko* is composed of several

¹The age at marriage among the Makuas is the lowest in the country (Arnaldo, 2004)

²The junior members received land and protection from the senior members in return for their labor services.

generations of lineages called *Erukulu*. The lineage originates from a common mother called *genearca*. A lineage has the common last name called *Nihimo* (Martínez, 1989). All the matrilineal clans trace ultimate descent from the *Nikholo*, a male clan-founder (Whiteley, 1954).

Matriliney does not equate with matriarchy or supreme authority of the woman over all matters (Arnfred, 2001; Geffray, 2000; Sheldon, 2002). In Makua society, similarly, the authority of the lineage is the maternal uncle or the oldest brother of the *pia-mwene*, the great mother of the lineage or the most important woman figure (Geffray, 2000; Martínez, 1989). He is called *Nihimu*. All other brothers of the *pia-mwene* are called *Atata* and they also exercise authority in functioning of the family. The *Nihimu* supervises all the political, economic and social matters of the lineage together and *pia-mwene* acts as a counselor (Martínez, 1989). Her authority is not direct instead she is consulted by the male heads of the family including *Nihimu* in decision making (Geffray, 2000; Martínez, 1989). She is the spiritual head of the clan who is the most important mediator between the past and the future. She is considered as the protector of family traditions and protects the members of the lineage from the evil spirits (*mishepa*). According to Mbwiliza (1991), the dual social organization of Makuas is a result of masculinity of political power and matrilineal character of kinship (p. 70). In the event of the death of the *Nihimu*, his son can never succeed him. Next in line is his nephew or the oldest son of the *pia-mwene* (Martínez, 1989).

The authority of the clan also rests with a man - the great chief or *Mwene* who in many cases is also the chief of the village. Usually the *Mwene* is the *Nihimu* of the most powerful and the senior lineage. His main functions are protecting law and order in the villages, judge legal matters, organize and supervise the defense of the population and promote well-being of all the members. The chief always has the *rainha* or the *pia-mwene* by his side and consults her in all decisions (Martínez, 1989). Production and surplus is controlled by the *pia-mwene*, the great mother of the lineage. The output is stored in the granaries controlled by the *pia-mwene* (Arnfred, 2007; Geffray, 2000; Martínez, 1989). She is assisted by her brother in the process of supervising production process and selling of surplus.

The *pia-mwene* plays an active role in the traditions related to birth, marriage and death. Birth is celebrated in the Makua society because a child is the guarantee to stability and progress of the lineage. For this reason, motherhood is valued greatly among the Makuas.

A woman is always respected in the family and the community (Martínez, 1989). Childcare and supervision is mainly the responsibility of the mother and the grandmothers of the lineage (Geffray, 2000; Martínez, 1989). In case of the woman's infertility, extra-marital sexual union is allowed. The child born out of this union, however, belongs to the married couple. The condition of infertile men is more precarious. In some cases extra-marital sexual union is allowed while mostly an impotent man is sent back to his mother's home (Geffray, 2000; Martínez, 1989).

The Makua saying "Weneliwa Oyarayara Mwana" means the initiation is the true birth of a child (Martínez, 1989). The initiation rites of young men and women, *Weneliwa* is considered as the social birth. After passing through the rites an adolescent is considered as an adult and ready to get married and participate in community functions. For the mother of the child passing through the initiation rites, the process brings greater respect and satisfaction than giving birth to the child (Geffray, 2000; Martínez, 1989). The initiation ceremony of a young boy is conducted by the *Mwene* with the boy's father and other men of the lineage. The boy is circumcised by the *Mwene* while other men sing and dance.

Emwali or female initiation rite is a more celebrated ceremony among the Makuas. Usually it lasts for three days. The ceremony has a special importance in the lives of Makua women (Arnfred, 2001, 2007). The ceremony is led by the *pia-mwene* and the other older women of the lineage. The girl is asked to protect her virginity if she wants to get a husband. The ceremony includes the introduction to sexual life - dilating girl's vagina, pulling the vaginal lips and teaching of sexual compartment. The girls are prepared for a family and social life. They are taught different household tasks, women's tasks in farm cultivation, social etiquettes and ritual participation. They are also taught to respect the husband and fulfill his desires for food and sex (Arnfred, 2001; Martínez, 1989; Sheldon, 2002).

2.1.2 Gender relations in Makua society

In the matrilineal system of the Makuas, the man after marriage leaves his family home and comes into the family of the woman. The marriage is not formalized immediately in the Makua society (Arnfred, 2001; Geffray, 2000). Initially the young man is tested on two main obligations towards the family of the woman – to be a procreator and a good worker (Arnfred, 2001; Geffray, 2000; Medeiros, 1985). At this stage the couple is not formally

married. Even though the marriage is not a chain binder that is, a man or a woman (or her family) can break it as in when desired; the formalization of marriage is hold on until the young man passes the two important tests (Arnfred, 2001; Geffray, 2000; Martínez, 1989).

The most important test is to impregnate the woman. Until the first child is conceived, the position of the young man in the woman's house is precarious. There are different ways to test his ability to procreate.³ The couple's child always belongs to the woman's lineage. Geffray (2000) explains, "the man cannot reproduce anything by himself, he impregnates the woman while the woman gives birth. The man has the responsibility to contribute to the birth of the children of others [of the woman's lineage]."

In general, the position of a young woman is favorable compared to that of a young man in the matrilineal society because of the value attached to motherhood (Arnfred, 2007; Geffray, 2000). The pregnant woman receives a lot of care and help from all the members of the household because the child to be born not only belongs to the parents but to the lineage (Martínez, 1989).

Although the first child is an indication of the man's ability to procreate and advance the woman's lineage, it does not guarantee long term cohabitation with the woman and her family. He has to ensure that his behavior towards the mother-in-law, his wife and other women of the family is respectable and decent. At the same time, he has to prove his ability to be a good producer, in other words, being able to prove himself as a hard-working and a diligent farmer. The young man is also required to help with household chores in mother-in-laws house like cleaning the house, fetching firewood and water and perform typically male tasks like building a house, repairing mother-in-law's house or warehouse for farm products (Arnfred, 2001; Geffray, 2000; Martínez, 1989). This service performed by the young man can be understood as a variation of bride price and is called *pette* or bride service (Arnfred, 2001).

Once the young man has passed these two tests, the marriage is formalized. The couple is allowed to build and move into a new house. They are given a piece of land to cultivate. In addition, the man is required to provide labor on family lands (Geffray, 2000; Martínez,

³Geffray (2000) gives different accounts of how the mother-in-law would test for man's ability to procreate. First, there is a "magical" (nonscientific) test of man's sperm. A negative result can lead to nullifying the union before marriage is confirmed. Second, the mother-in-law may plant a banana tree and the young man is required to impregnate the woman before the first fruits appear on the tree.

1989). In due time, the couple will be allowed to build their own granary. They, however, are required to share the output or proceeds of the produce with the *pia-mwene* (Arnfred, 2007; Geffray, 2000). In his account of Makua social life, Geffray (2000) argues that the labor of the man is invisible. He explains “the children are fed the fruits of the labor of their fathers, however, socially the fathers are not accorded the role of *alimentador* (feeder). They are *fecundadores* (procreator) and *joint* producers in the lineage of the in-laws.” The woman is the *alimentadora* (Geffray, 2000). In this sense, the food is the basis of “female authority” in the matrilineal Makua society (Arnfred, 2007). Medeiros (1985) explains “as agriculture was based principally on female work, in matrilineal society it would be the group of sisters who constituted the stable, productive center, in direction of which the men had to move.”

The division of roles is gendered in the Makua society. The processing and the preparation of food and *otheka*⁴ are exclusively female roles while hunting and protecting the farms against wild animals are male roles (Arnfred, 2007; Mbwiliza, 1991). Other activities like collection of forest products like tubers, firewood, *paus* (dried long grass) used in construction of houses and *barro* (dirt) used in pottery to make utensils are performed by both sexes, more often by the young women (Arnfred, 2007; Martínez, 1989). There is a Makua saying *mulopwana, epaso; muthiyana, ehipa*, which means “the man is the axe and the woman is the hoe” (Martínez, 1989). The saying is based on the roles men and women performed in agriculture. In agriculture, the clearing of land is mainly undertaken by men using the axe. Sowing is performed jointly, weeding is mainly done by women using the hoe. The harvesting season is busy and the labor is supplied by the man and the woman jointly, including children. The saying expresses the *complementarity* of the two sexes.

Even though the agricultural work is performed by both the man and the woman, the output is always stored in the granaries of the *pia-mwene* or the grandmother. The young man and woman do not get the control of the granaries.⁵ Arnfred (2007) explains that the “road to this status is long.... The food is controlled, cooked and distributed by the older women. Control of food is power, but is also an obligation to generosity.” In the Makua

⁴*Otheka* is a beer brewed out of *mapira*. The brewing of *otheka* is long process and requires special skills known only to women (Arnfred, 2007).

⁵The young couple after reaching a certain age (30 years or so) are allowed to build their own granary. Still, the control over the food in the granary is with the older women of the lineage.

society power and roles are determined by the social position or seniority in the lineage (Arnfred, 2007).

The historical account of Makua traditions points to a favorable position enjoyed by women in the household and the society. Men, particularly the lineage chiefs, however, are the bosses. Compared to a patrilineal society, in matriliney, the man exercises greater power by the virtue of his status as the brother or the uncle instead of his status as the husband or the father.

2.2 History of northern Mozambique

It is believed that the first Arab/Swahili traders started sailing to eastern Africa around first century A.D. (Mbwiliza, 1991). By the thirteenth and the fourteenth century they had settled along the east African coast including northern Mozambique (Martínez, 1989; Mbwiliza, 1991). They introduced commercial trade in Mozambique and made connections with Makua chiefs to obtain ivory, agricultural commodities and slaves. Hindu Banyans from India is the other ethnic group present in northern Mozambique. They are mainly merchant class. They shared close links with Makua chiefs (Alpers, 1975; Hafkin, 1973; Martínez, 1989; Mbwiliza, 1991). Between the fifteenth and the nineteenth century there were several conversions to Islam from Makua group (Alpers, 2000).

The Portuguese first came to Mozambique in 1498. They saw a strong influence of Islam especially among the coastal Swahili people. At that point in time, most of the east African possessions of Portuguese were intended a “way-station” to India (Hafkin, 1973). The reason to form a base in Mozambique was the interest in potential gold and silver that could be extracted from the interior of the country (Mbwiliza, 1991).

The Portuguese created a strong naval base in the Indian ocean. By the end of seventeenth century, however, the Portuguese started to lose power in the subcontinent as the British and the Dutch became more powerful (Hafkin, 1973; Mbwiliza, 1991). In the late seventeenth century, the Portuguese were forced to seek profits from trade in eastern Africa (Mbwiliza, 1991). Particularly in Mozambique, which was initially used only as a trading post by the Portuguese, after 1752 the Portuguese started to separate its administration from the State of India in hope of reviving trade and commerce (Hafkin, 1973; Mbwiliza, 1991; Newitt, 1995).

The trade in eighteenth and until end of nineteenth century was mainly in ivory and slaves (Alpers, 1975). Despite noting its potential for growing cotton, the Portuguese were not able to establish large scale cotton cultivation in the north until the beginning of twentieth century (Isaacman, 1996). Poor quality seeds, recurring crop diseases and inexperience of peasants in cotton production were some of the factors responsible for the failure of the Portuguese in establishing commercial cotton cultivation in Mozambique (Isaacman, 1996). An account from Carlos Fortuna shows that the local merchants in northern Mozambique constrained the production of cotton in order to keep the labor flowing into ivory hunting and slavery (Fortuna, 1993, p.126).

However, in the eighteenth century, the Makua chiefs became very powerful in the north of Mozambique and started to disrupt trade and commerce of the Portuguese empire (Hafkin, 1973). For example, Bonate (2003) explains “nobody could pass through or conduct any business in any land without knowledge of the paramount chief and without paying tolls and tributes.” The Portuguese were able to break the power of Makua chiefs by the eighteenth century with the help of Swahili shaikhs. The increased demand for slaves from east Africa led to more and more captives from among Makuas by the Portuguese and Swahili (Hafkin 1973, Alpers 1970). Slavery and inter-tribal rivalry led to decline of Makua power by the end of the nineteenth century (Hafkin, 1973).

Towards the end of the nineteenth century, political and economic power started shifting away from coastal areas to the interior of northern Mozambique due to abolition of slavery. The end of slave trade also meant significant loss of power for Swahili traders (Mbwiliza, 1991). The new trade in northern Mozambique was composed of mainly foodstuffs like groundnut, sesame and maize. It was dominated by the Indian merchants (Mbwiliza, 1991). At the village level, the trade was controlled by the chief who had slaves⁶ work on their plantations. The chiefs also collected a tribute in agricultural produce from the peasants and supplied it to the merchants (Mbwiliza, 1991). This period saw a shift in the economic activity of the Makuas; agricultural production became their main occupation (Hafkin, 1973; Mbwiliza, 1991).

During their four hundred years of presence in Mozambique, the Portuguese did not

⁶The Makua chiefs in the interior were not under Portuguese control so they continued to raid for slaves, despite abolition of slavery (Mbwiliza, 1991).

disrupt the cultural and political dynamics of the local population. Only towards the end of the nineteenth century, after the Berlin conference (1884-85), the Portuguese began the campaign to take full control of northern Mozambique (de Albuquerque, 1897; Newitt, 1995). The new generation of the colonizers was more aggressive and used racist and nationalist ideology to conquer local lands (Bonate, 2003; Mbwiliza, 1991). Bonate (2003) explains that the new colonizers were “were mainly modern-style military career officers, who believed that the deployment of the professionally trained European army and equipment, with modern vessels and newest weaponry, would guarantee the victory.” In the first few attempts, the Portuguese faced strong resistance from the powerful Makua chiefs who had considerable military manpower. The structure of the Makua society - dominance of women in production and provisioning of food, allowed men to participate in military operations against the Portuguese (Newitt, 1995). After the first few unsuccessful attempts to gain control over the local Makua population, the Portuguese realized that diplomacy with local Makua leaders was crucial. Using military attacks and diplomacy, the Portuguese occupied the native lands of Makuas and colonized them (Martínez, 1989; Newitt, 1995).

After gaining control in northern Mozambique, the Portuguese colonial policy was to “extract wealth from the local peasant society” (Newitt, 1995). They implemented forced cotton cultivation, hut taxes and wage labor. The Portuguese introduced changes to the traditional Makua political authorities. For example, the Portuguese appointed village *regulos* from the ranks of *mwenes* (Tvedten et al., 2006). The *regulos* and their assistants *cabos* were primarily used to collect taxes, act in land conflicts, settle domestic disputes and, in some cases, to manage agricultural production for the colonizers (Tvedten et al., 2006).

The collection of taxes from the local population constituted a direct form of wealth extraction. The monetary economy was absent in the northern part of Mozambique and therefore, tax was collected in the form of agricultural produce, mainly cotton and cashew. The Portuguese empire also collected taxes in the form of labor (Newitt, 1995). In order to increase cotton cultivation in the north, initially the colonizers urged local peasants to grow cotton, which they then bought back from the peasants. The fall in cotton prices in late 1930s and early 1940s reduced peasant interest in cotton production. The 1950s saw a new colonial campaign of *forced cotton cultivation*. Villages were assigned quotas, which they had to meet. The system of forced cultivation imposed immense pressure on local

population particularly on women, who faced continuous shortage of labor in maintaining food production for subsistence alongside cotton cultivation for the Portuguese.

There have been two remarkable political shifts in Mozambique during the twentieth century. First there was the transition in 1975 from Portuguese colonialism to political independence and socialism after a successful war of liberation. Second, in the late 1980s the government moved from Frelimo socialism to neoliberal economic policies and a structural adjustment program enforced on the economy by the World Bank.

The liberation struggle was headed by FRELIMO (Frente de Libertaco de Mocambique) a party based on Marxist Leninist ideology. FRELIMO took up arms on the 25th of September 1964. Portugal agreed to hand over the government of Mozambique to FRELIMO in April 1974 and on the 25th of June 1975 the official proclamation of national independence was decreed.

After the liberation war was over, FRELIMO headed by Samora Machel began the movement to construct socialist state in Mozambique. The wartime slogan, *a luta continua* (the struggle continues) became the slogan for reconstructing the broken society into a modern and equitable society. It attacked traditional practices like *lobolo* and female initiation rites, traditional leaders including the lineage leaders in matrilineal Makua (Henriksen, 1978). Even the Muslim population were intimidated by the FRELIMO (Sicard, 2008). Plantations, large farms, factories and hospitals were nationalized (Henriksen, 1978). The state followed collectivization of agriculture to increase food and cash crop production in order to create surplus for financing industry.

The socialist attempts of FRELIMO were resisted by the opposition party, RENAMO (Resistencia Nacional Mocambicana), which led to a civil war in the country. Mozambique was devastated by the civil war, which lasted for 16 years. The peace accord was signed in 1992 and the country held its first democratic elections in 1994. The postpeace accord period has been characterized by a shift to open market and neoliberal policies.

2.2.1 Historical shifts in social aspects of Makuas

Around the end of eighteenth century the matrilineal clan relations became weaker.⁷ Other forms of social relations took over matrilineal kinship. Trade has been a factor that brought the Makua society under the influence of Islam and the Portuguese culture (Alpers, 1975, 2000; Mbwiliza, 1991). Despite the influence of Swahili and Portuguese customs on the Makua society, the matrilineal traditions did not cease to exist.

In the beginning of nineteenth century the influence of Islam had already widespread in the coastal areas of northern Mozambique. There were different ethnic groups within the Makua muslims in Mozambique. The unions of Makua women with Swahili muslim men in the coastal areas of Nampula started following patrilineal descent (Hafkin, 1973; Machado, 1970; Mbwiliza, 1991). The Makua culture in this region of Nampula amorphed into a mix of matrilineal traditions with Swahili patrilineal customs (Hafkin, 1973; Mbwiliza, 1991).

The system of slavery is also responsible for disruption of traditional Makua institutions. The Makua chiefs traded the slaves with the Swahili sheiks and the Portuguese. They also owned many slaves who performed household duties, farm work and provided military services for them (Mbwiliza, 1991). Slave raids were responsible for breaking down matrilineal lineage in many villages. People abandoned their native lands and migrated to safer places in order to avoid raids. Amongst those captured from the raid, many women were taken as wives by the chiefs (Mbwiliza, 1991). The Makuas witnessed polygamous marriages flourishing among the wealthy slave owners, particularly the chiefs.⁸ Polygamy in the northern part of Mozambique, however, differed from traditional polygamy practiced in Islam. All the wives lived in separate houses and therefore, the element of sharing work with other wives is missing (Arnfred, 2001).

The institutional shift in the pattern of residence from matrilineal to patrilineal was aided by the large economic fortunes brought by the slave and the ivory trade in the Makua society.

⁷The conflict between powerful and weaker junior lineages of matrilineal clans forced junior lineages to migrate to other parts of Mozambique and southern Tanzania. Many of them converted to Islam (Mbwiliza, 1991).

⁸Although monogamy is the common form of marriage among the Makuas, polygamy is permitted. To men, a polygamous marriage is a sign of wealth and power, an instrument of defense because it increased the off-spring, had economic benefits as women worked in agriculture and more wives meant more crops were cultivated. Polygamy also reflected a certain amount of Islamic influence among the Makuas (Martínez, 1989; Sheldon, 2002).

Now, the wealthy Makua men were able to pay bride price⁹ and release himself out of living with and serving the lineage of the wife-to-be (Mbwiliza, 1991). In his historical account of Makuas, Joseph Mbwiliza argues that “the penetration of merchant capital.....opened the way to gradual subordination of women” (Mbwiliza, 1991). He points to two major factors: shift in residence patterns from matrilineal to patrilineal¹⁰ and depreciation of women’s labor in agriculture due to increased importance of trade in fulfilling needs (Mbwiliza, 1991; O’Neill, 1882).¹¹ Particularly in wealthy households and chiefly households, the pattern of gender division of labor took the shape of those found in typical patrilineal societies - the woman as caretaker and the man as provider.

Christianity was another force that weakened the matrilineal relations in the Makua society. Christian missionaries were brought to Mozambique by the Portuguese. The missionaries spread in the north towards the end of the nineteenth century. The missionaries aimed to educate the local population and make them *civilized* (Arnfred, 2004). The idea of large families descending from the woman’s lineage and matrilineal residence patterns were at conflict with the Christian ideology of patrilineality and the male head of the household. The matrilineality in the north was described as primitive and demeaning to the women (Arnfred, 2004, 2011). The church tried to abolish female initiation rights. However, the practice continued in secret. Such was the case during the rule of FRELIMO after the independence, since Frelimo was against all sorts of superstition and traditional practices. The only time the initiation rights were halted was during the war for independence as women themselves were too occupied in the war (Arnfred, 2007, 2011; Medeiros, 1995).

The actions of the Christian missionaries during the colonial period and the socialist state established by FRELIMO coincided in their aims to promote gender equality. The basis of both was the Victorian ideal of family whereby the husband/father is the head of

⁹Bride price is a muslim custom introduced by the Arabs into the Makua society. The man has to pay *Mahr* (in southern Africa, it is popularly known as *lobolo*) to the family of the woman in order to marry her.

¹⁰Mbwiliza gives an example from the life of Makua women who were wives of chief Nyiga married into patrilineal residence and a Makua woman, Dona Rosaurra who remained on her matrilineal land. He finds that they were more subservient compared to independent Dona Rosa

¹¹Joseph Mbwiliza argues that the very nature of the most important commodities of trade - slaves and ivory, and the way they were obtained (hunting and raids) made men the primary players in long distance trade (Mbwiliza, 1991).

the household and the breadwinner while the wife/mother is the queen of the home. These ideals emphasize on the division between private and public spheres. This, however, is not the case among the Makuas. In the Makua society, women have always been dominant in food production (public) and provisioning (private). During the colonial times when men were forced to perform wage labor in infrastructure programs, women became the sole producers of food. Women also participated heavily in the production of cotton to meet the quotas imposed by the Portuguese. In addition, certain male tasks like clearing of land now became a woman's task (Arnfred, 2004; Isaacman, 1996).

Women in the Makua society lost their traditional power based on the status of motherhood. Arnfred (2004) explains "power based on maternity and fertility is not recognized in the civilized Christian context, however, fertility is trivialized as a function of nature, and maternity is reduced to the education of children in the seclusion of the patriarchal family." Further, FRELIMO's policy to promote a stable family and opposition to divorce caused more damage to matriliney (or women) than done by the missionaries. For example, easy divorce process in the north helped to keep the rate of polygamy low. However, FRELIMO's policy against divorce made it easier for men to get into polygamous relation because women can no longer use divorce as a means to fight against polygamy (Arnfred, 2001). The interviews of women in Cabo Delgado conducted by Arnfred (2001) show that the new divorce policy favored men over women. For instance, "when it is men who ask for divorce the court will accept it right away, and the men do not have to go to re-education. But if the man beats his wife and she then goes to the court to ask for divorce, she will be sent to the village prison for three-four months, after which she is told to go back to her husband" (Arnfred, 2001).

The new family laws implemented by FRELIMO were intended to promote gender equality. However, male supremacy in the household is taken for granted in the Christian ideology, which was the basis of the new family law in postindependence Mozambique. In the Makua society those laws were in direct conflict with the essence of matriliney, which was a source of power to women. In the nuclear family system promoted by the state, the brother/sister relationship has little importance; what matters is husband/wife. To women this meant loss of family networks and more immediate exposure to husband and his power (Arnfred, 2001, 2007).

The liberation of women had a high priority. The president of Frelimo, Samora Machel declared in his speech, "The liberation of women is a necessity for the revolution, a guarantee of its continuity and a condition for its success" (Machel, 1973). To FRELIMO women were nothing more than a source of military power during the liberation struggle and, after independence a source of labor for the state and nation building (Arnfred, 2004). They promoted women's role in productive work while never acknowledged the burden of women's reproductive work, thus perpetuating the women's double burden of work. The state ideology towards gender equality was characterized by double standards. Arnfred (2001) summarizes experiences of women in northern Mozambique, which shows that women's conditions of life and their position vis-a-vis the men have changed for the worse since Independence.

2.3 Current state of gender relations in Nampula

Although matriliney accords favorable status to women among the Makuas, it does not mean that decision making becomes a prerogative of women. The bosses are men, especially the lineage chiefs. Capitalist development and the influence of Islam and Christianity weakened the kin system of the traditional Makuas. Today, matriliney is no longer the main lineage system in northern Mozambique. It coexists with the patrilineal traditions indicated by widespread polygamy and bride price customs (Arnfred, 2007; O. Conceição, 2006). The change from matrilineal to patrilineal residence has disempowered women because it is difficult for women to keep the land inherited from her maternal line of descent.

The spread of market system in the Makua society has changed the traditional division of labor. Traditionally, among the Makuas, the division of labor was determined by age and status in the lineage. The young man had to perform agricultural work and some household chores for his in-laws in order to be accepted in the family of his wife to be. The young wife worked on the farm and helped other women in the family in household and care work. Some roles were gendered. For example, women (young and old) alone were responsible for childcare and food preparation. This division of roles by sex did not imply differential treatment or valuation of the roles. If anything, women's role in food production and provisioning accorded them authority and power.

Today, the situation is much different. The division of labor found in Nampula today

is not based on seniority, it is gendered. In my field study I found that women share the breadwinning roles with men yet they alone bear the burden of care and household work. The breakdown of kin networks has taken away the traditional support mechanisms of the women. Also, the tradition of young men serving the older generations of the woman's family has all but disappeared. For example, Arnfred (2007) shared the complaint of an old woman in Ribaue in Nampula that neither she nor her daughters have received any support in farm or household work from her son-in-laws. Furthermore, the development of capitalist relations has created a hierarchical system of gender division of labor. The roles associated with the market are valued over the roles associated with the household. Although many norms of matriliney have disappeared, the role of the *alimentadora* is still a female role (O. Conceição, 2006; Tvedten et al., 2006). However, women's role of the *alimentadora* is no longer valued in the same way as it used to be under matriliney.

This chapter shows that social norms and practices are not static rather they change with shifts in political and economic systems. In Nampula, breakdown of traditional matriliney due to capitalist influences has eroded women's sources of power and status. In the new economic system dominated by the market forces, men are in a better position to take advantage of economic opportunities like wage labor while women are restricted due to their role in food production and their reproductive roles.

CHAPTER 3

GENDER DIFFERENCES IN TIME POVERTY

Arora, D. (2015). "Gender differences in time poverty in rural Mozambique." *Review of Social Economy*, 73: 2. Copyright © The Association for Social Economics. This is the author's accepted manuscript of an article published as the version of record in *Review of Social Economy* 09 Jun 2015 (<http://www.tandfonline.com/doi/full/10.1080/00346764.2015.1035909>)

CHAPTER 4

REVIEW OF LITERATURE: WOMEN'S ROLE IN AGRICULTURE

Ester Boserup's contribution, *Woman's Role in Economic Development*, published in 1970 brought the issue of women's roles in agriculture in developing countries within the purview of economics. Until then women continued to remain invisible and marginalized in much of the earlier economic research in agriculture and rural development planning. Consequently, policy actions have assisted men, by virtue of their status as household head; and women, who are invisible yet crucial players in agriculture, have lost out or gain little from policy initiatives. From there on, several studies have highlighted the crucial role of women in agriculture. One of the strands of this literature focuses on women's productivity in agriculture. It is argued that increasing productivity of women farmers by increasing their access to productive resources could address food security problems. For example, the study by Saito et al. (1994) finds that in Kenya the yield on men's plot is higher than that of women's plot by 8% and women's productivity could be increased by 22%, if they could use the same amount of inputs on their plots as much as men do. Udry, Hoddinott, Alderman, and Haddad (1995) study in Burkina Faso shows that by shifting labor and fertilizer between men's and women's plots output could increase by 10 to 20%. A Malawian study by Gilbert, Sakala, and Benson (2002) shows that in 1998-99 there were significant differences in use of fertilizers and hired labor based on gender of the farmers. Women farmers in Malawi were found to be equally productive when the difference in access to inputs is diminished.

4.1 Gender differential in agricultural productivity

Women tend to be less productive than men. Studies show, however, that unequal access to resources, factors of production and institutional support creates the gender gap in productivity.¹ For example, the study by Adesina and Djato (1997) finds that after controlling for differences in input use, plot and farmer characteristics, there are no statistically significant gender differences in agricultural productivity in Cote d'Ivoire. Similar results were found by Alene, Manyong, Omana, Mignouna, and Bokanga (2008) in Kenya. These studies also examine allocative efficiency and supply response of men and women farmers and find no gender differences therein.

Some studies have found significant gender differences in agricultural productivity even after controlling for inputs, household, plot and farmers' characteristics, namely the technical efficiency of men farmers was greater than that of women farmers.² The difference, however, pertains to the choice of crops grown by men and women farmers. Using instrumental variable technique, wa Githinji, Konstantinidis, and Barenberg (2014) in Kenya and Peterman, Quisumbing, Behrman, and Nkonya (2011) in Nigeria found that after accounting for endogenous crop choice, the gender differences in productivity become insignificant.

A recent set of papers, Aguilar, Carranza, Goldstein, Kilic, and Oseni (2014) for Ethiopia; Kilic, Palacios-Lopez, and Goldstein (2015) for Malawi; Ali, Bowen, Deininger, and Duponchel (2015) for Uganda; Oseni, Corralb, Goldsteinc, and Winters (2015) for Nigeria; Slavchevska (2015) for Tanzania; and Backiny-Yetna and McGee (2015) for Niger, focus on examining the contribution of different factors to the gender gap in agricultural productivity. Ali et al. (2015) argues "one limitation of the tests for technical inefficiency is that they do not quantify the individual contribution of endowment differences relative to the simple difference in agricultural productivity. A detailed decomposition of the endowment gap would be useful for designing policy programs." These papers apply Oaxaca-Blinder decomposition methodology to decompose the gap in agricultural productivity. This approach has the advantage of separating input endowment effect from structural effect, which can be further

¹See Doss (2015) for a review of gender gap in agricultural productivity literature.

²Technical efficiency is the ability to achieve higher level of output given a similar level of input use.

subdivided to observe the contribution of each covariate. This approach shows the elements, which are more relevant in explaining any gender gap that may exist.

The main weakness of this strand of literature is that it does not address the inequality in burden of unpaid work as a constraint to agricultural productivity. While acknowledged and highlighted in many studies it remains under-theorized and lacks empirical evidence. In the next section, I discuss two strands of literature, one that documents the unequal gender roles and heavy burden of women's work in agricultural households and the other strand, mainly epidemiological and anthropological evidence, documents that the heavy burden of work has the potential to adversely affect an individual's health and labor productivity.

4.2 Time-poverty, women's health and agricultural production

The analysis of intrahousehold relations indicates stark inequality in gender division of labor in rural Africa. Women are assigned the responsibility of food production, preservation, storage and preparation, fetching firewood and water, household maintenance and care provision (Bryceson, 1994; Sikod, 2007; Wangui, 2003). In times of need, women are also expected to complement the role of income earner, in order to ensure household survival (Gittinger, Chernick, Horenstein, & Saito, 1990; Meeker & Meekers, 1997). The assistance from men in fulfilling household chores and care provision is minimal. Consequently, household responsibilities are met solely by the woman of the household. For example, the study by Pitcher (1996) conducted in 1994 reports that in the Netia region in Mozambique there is a strict gender division of labor in cotton-producing households. Although the couples worked together on the farm to produce food and cash crops, household duties and care work is mainly women's responsibility.

Rural women in sub-Saharan Africa cope with competing claims on their time by undertaking different activities simultaneously and by reducing their leisure time (Koopman, 1991; Ngome, 2003; Sow, 2010; Tibaijuka, 1994; Warner & Campbell, 2000). Fonchingong (1999) showed that Cameroonian women coped with the excessive workload on them by forgoing recreation, reducing their hours of sleep and leisure time and participating in fewer social outings. In addition to long working hours, women's work in rural areas of Africa tends to be quite strenuous. First, women farm land using most basic tools (Quisumbing,

1994). Second, the backbreaking work of processing grains, cassava and other crops is performed mainly by women. Third, women also spend considerable time on transporting produce, water and firewood. In sub-Saharan Africa, women's main means of transport is their heads, whereby they normally carry heavy loads. An early rural transport survey by Malmberg-Calvo (1991) shows that women's share of the work of transporting water, firewood and crops is substantial, ranging from 96% in Zambia, 86% in Tanzania to 71% in Ghana. As shown in Chapter 3 in 2013 Mozambican women contributed 97% of the total time spent on collection of water and firewood for household use. The bulk of this time includes head loading time. Fourth, women multitask, especially child-care concomitantly with other activities (Bittman & Wajcman, 2000; Floro & Pichetpongsa, 2010; Folbre & Yoon, 2007). Floro (1995) argues that an individual undertaking two or more tasks simultaneously in the same time segment tends to work harder through an intensification of labor. The findings in the previous chapter suggest that women work more intensively than men; the value of work intensity index for women is 0.228 compared to 0.012 for men.

It is quite intuitive that long working hours, undertaking strenuous activities and multi-tasking takes a toll on one's physical and mental health. Empirical evidence from epidemiological research supports this intuition (Alemu & Lindtjørn, 1995; Bird, 1999; Frankenhaeuser, 1991; Frone, Russell, & Cooper, 1992; Sparks, Cooper, Fried, & Shirom, 1997; Vaananen et al., 2005; Virtanen et al., 2012; Williams, Suls, Alliger, Learner, & Wan, 1991). Much of the literature analyzing workload and health issues is confined to men and women in urban areas in industrialized countries. There are very few studies examining these issues in rural Africa. Earlier studies by Thomson, Billewicz, Thompson, and McGregor (1966) in Gambia and Bleiberg, Brun, Goihman, and Gouba (1980) in Upper Volta compare women's weight during peak and low seasons in agriculture. Their results suggest that women tend to lose weight during the peak of the agricultural season and regain this weight in the period with lower activity level. The study by Nti, Inkumsah, and Fleischer (1999) presents evidence for rural and urban women in Ghana. Their research shows that owing to the pressure of fulfilling multiple roles, more women than men suffered problems like weakness, tiredness, body pains, arthritis, headaches. The Gambian study by Barrett and Browne (1994) shows that the introduction of grain mills in the village reduces women's workload and improves their well-being. The route from workload to health problems

is difficult to isolate, given the fact that in rural areas availability of calories and other nutrients in food is very poor and a hunger season is too common. Nevertheless, it cannot be denied that there is some interaction between time constraints and women's health.

Moreover, time constraints on women is a source of inefficiency. For example, the pressure of multiple roles hinders women's participation in self and paid employment. Using a panel dataset from Ethiopia for 1994, 1997 and 2003, the study by Quisumbing and Yohannes (2004) show that childcare is one of the main reasons constraining women's decision to apply for public works program. Addison, Demery, Ferroni, and Round (1990) suggest that the allocative inefficiency caused by women's time constraints may be a key source of female as well as household poverty. The study by Tibaijuka (1994) shows that in Tanzania there is potential to increase cash incomes for smallholder coffee and banana growers by 10% by reducing time burdens of women. A qualitative study by Tarimo, Kohi, Outwater, and Blystad (2009) in Tanzania shows that owing to the pressure of caring for AIDS patients women significantly reduce their labor hours for cultivation on the farm. Koopman (1997) attributes deterioration of Africa's traditional agricultural sector to different factors including increasing overwork and exhaustion of female farmers. The evidence presented in this section suggests the burden of productive and reproductive work, which women bear disproportionately may have potential adverse effects on women's productivity. Therefore, women's time poverty may become a source of efficiency loss in agriculture. Chapter 5 of this dissertation aims to test these linkages.

CHAPTER 5

A GENDERED MODEL OF THE PEASANT HOUSEHOLD

Arora, D. and C. Rada. (Forthcoming). "Gendered model of the peasant household: Time poverty and farm production in rural Mozambique." *Feminist Economics*. Copyright © the International Association for Feminist Economics. This is the author's accepted manuscript of an article to be published in *Feminist Economics* journal (<http://www.tandfonline.com/loi/rfec20#.V5Yfy7x-ebd>)

CHAPTER 6

CONCLUSIONS

Agricultural policies in developing countries are increasingly targeted towards minimizing the constraints faced by women farmers. Yet, an important gender-based constraint in agriculture - women's time poverty - has received insufficient policy attention due to lack of theoretical and empirical research documenting the effects of this constraint. By employing context-specific analysis this dissertation investigates the linkages between time poverty and farm production. The dissertation is based on a field study that I conducted in the Nampula province in Mozambique in 2013. The methodology employed in generation of primary data is a combination of quantitative and qualitative techniques. The time-use data collected in the household survey is one of the first in Mozambique.

6.1 Main findings

The case study from Mozambique offers insights into labor allocation patterns within smallholder agricultural households. A fairly rigid gender division of labor is apparent among these households in Mozambique. While the time women allocate to economic activities is commensurate with that of men, household chores and care work are almost entirely women's responsibility. In addition, women multitask to cope with the competing claims on their time. They undertake child care together with other work activities (farm work, household work, etc.). Women also perform child care concomitantly with leisure. Therefore, my study pays special attention to time-use related to care provision to avoid underestimation of women's workload. Making use of quantitative time-use data along with anecdotal and observational evidence, I present a framework of overlapping categories of work. After accounting for simultaneous care work performed with leisure, the total time spent by women on care provisioning almost doubles. In addition, multitasking care

work with other work activities tends to make work more taxing for women as shown by the higher work-intensity index of women compared to that of men.

This dissertation applies a time lens to the analysis of poverty. Using FGT indexes in case of time poverty, I find that women are disproportionately time poor than men. Further accounting for the burden of simultaneous care work, women's time poverty worsens while that of men remains virtually unchanged. Examination of determinants of time poverty shows that common measures of individual economic power, such as assets and education, do not necessarily affect the time poverty faced by women. Controlling for demographic and economic factors, sex of the individual remains a significant indicator of the probability of being time poor. The results of the time poverty analysis in this dissertation make an empirical contribution to the feminist economics literature and lend support to their findings that social norms are pervasive in men's and women's decisions related to work and leisure. They also present a challenge to policy efforts that focus on increasing women's access to assets or paid work in increasing their bargaining power in the household, with its potential to redistribute their unpaid workload.

During my field study I observed that the women in Nampula managed to work long hours, including considerable amount of time spent on physically strenuous activities like farm work, transporting produce and water on their heads. I often wondered if they were tired or fatigued by the tremendous amount of pressure they face in daily lives. I made this question an important theme in the focus group discussions and open-ended interviews with women. The insights from the anecdotal evidence helps to construct a conceptual framework to investigate the linkages between time poverty, farm production and food security of the households.

Based on this time poverty analysis I developed on the small number of gendered models of the subsistence household to theorize household behavior. The methodology is based on the fairly simple utility maximization framework but the model pays attention to the intrahousehold power relations and the wider context in which choices are made. Based on the evidence from the literature and my field study, I reject the neoclassical assumption of unitary household. In this model, I present separate objective functions of the man and the woman who simultaneously engage in maximizing their utilities. The model illustrates the intrahousehold bargaining process through interdependent decisions of the man and the

woman in the household model. This particular model captures the role of extrahousehold factors (social norms) on intrahousehold bargaining process, which is missing from the literature on household models. The institutions are gendered, therefore, the choices are not simple outcomes of utility or profit maximization. The decisions are constrained by the social norms. I account for this in the household model by including social norms in the choice problem of the man and the woman.

The household model is used in the context of an idiosyncratic shock such as an illness of a household member, which increases the demand for labor provided by the woman. The incidence of sickness serves as a medium to demonstrate the play of gender roles in the household and the lack of flexibility in shifting household and care roles to men. The results show that deterioration in the woman's time constraint will have an adverse effect on agricultural output of the household. This is because most women respond to an increase in household work by reducing their work hours on the farm and by reducing their leisure time. The latter outcome is expected to have a negative effect on women's physical and mental health, which will then also contribute to a decline in their productivity on the farm. I examine the model numerically by conducting simulation exercise using the data from the field survey. The results from the simulation show that a household sector shock necessitating an increase in the woman's labor in care work would lower the growth rate of farm output, which is the main source of household's food consumption.

6.2 Implications

In a policy context where unequal gender division of labor is underemphasized as compared to unequal access to farming inputs, it is necessary to document the potential adverse effects of women's work burden on the food-security of the household. On the basis of the findings of this work, I argue that policies to poor agricultural productivity and food-deficit in sub-Saharan Africa must be gender-sensitive and include women, with a particular concern for changing the existing pattern of division of labor in the household.

The "triple R framework" as put forward by Elson (2008) argues that the ways of reducing the costs related to unpaid care work must focus on the actions on *recognition*, *reduction*, and *redistribution* of unpaid care work. The work presented in this dissertation recognizes the double burden of productive and reproductive work of women. My objective

is to insist that it is *unjust* that a disproportionate burden of the household's survival falls on women. And therefore, reducing women's workload is a desirable goal in and of itself. Second, by documenting the potential adverse effects of women's heavy workload on the food-security of the household, the dissertation aims to cast light on the efficiency gains from reducing and redistributing unpaid work.

In the short term, several policy actions could target reduction in women's workload by improving infrastructure and providing better technology for cooking and food processing. The literature shows that while these actions have been helpful, they are temporary fixes that may reduce women's work burden but do not change the gender division of labor in the household. It is important to emphasize that the unequal roles result from the constraints on women's agency and freedom. As Sardenberg, Costa, and Passos (1999) argue, "women's role in rural production cannot be seen as separate from actions which seek to change their status," the policy action, therefore, must focus on reducing women's workload by prioritizing women's freedoms, voice and agency.

Particularly in Mozambican context, better technology and market substitutes for household work are available to middle class women, thereby facilitating women's participation outside the household. However, women's participation in the labor force and the parliament has been accompanied by very little change in women's position and roles in the household. Ana Laforte, a famous activist in Mozambique argues that "reducing women's workload requires more than introducing time-saving devices and fixing the infrastructure. We need to reshape the gender division of labor." She acknowledged the difficulty involved in challenging the gender stereotypes. Although the literature shows that the gender roles are not ahistorical and women have taken over traditionally male roles in the paid sphere (Doss, 1999; Pfeiffer, 2003), men have not taken up the responsibility of household and care work in equal magnitude. Lado (1992) argues that the gender roles are flexible but the change of roles has been unidirectional. The social norms governing division of labor in household activities are rigid and have been resistant to economic changes. In the end, Ana optimistically shared that "changing stereotypes is a long process. At the same time, it is a more equitable and just solution, which requires collective action from the government and the civil society" (Interview with Ana Laforte, July 10, 2014).

In the end, I reiterate that both men and women are motivated (constrained) by the

norms in making choices about paid, unpaid work and leisure. A new strand of literature documents the dilemmas faced by men and their contributions in challenging gender stereotypes (Jewkes, Flood, & Lang, 2015; Levtov, Barker, Contreras-Urbina, Heilman, & Verma, 2014). These studies document the importance of incorporating men in policy action that aims to create a redistribution of unpaid work.

6.3 Future research

Although the model in this dissertation is contextualized to the conditions of peasant life in northern Mozambique, the basic framework is generalizable to different contexts and lives of rural populations in sub-Saharan Africa.

For example, I assume that a minimum level of subsistence output is needed for household survival. However, the qualitative research in Cabo Delgado province of Mozambique by Stevano (2014) shows that due to time constraints individuals skip a meal during the day. This implies that individuals can adjust their needs in the household sector in order to make enough income needed to survive. In this particular model, we can understand this impact by relaxing the assumption that household output is constant. Similarly, we can relax the assumption of fixed labor input of other members in the household, if there is availability of time use of other household members. We can also introduce off farm employment and income to the model.

A major weakness of this study is that the data are for one agricultural season. The time use and consumption patterns of individuals in farming households vary across agricultural seasons. Therefore, a panel data analysis of the linkages between time poverty and food security will be helpful to gain a more accurate understanding of this relationship over a period of time and in different agricultural seasons.

REFERENCES

- Addison, T., Demery, L., Ferroni, M., & Round, J. (1990). *Making adjustment work for the poor: A framework for policy reform in Africa*. Washington D.C.: The World Bank.
- Adesina, A. A., & Djato, K. K. (1997). Relative efficiency of women as farm managers: Profit function analysis in Cote d'Ivoire. *Agricultural Economics*, 16, 47-53.
- Agarwal, B. (1997). Bargaining and gender relations: Within and beyond the household. *Feminist Economics*, 3(1), 1-51.
- Aguilar, A., Carranza, E., Goldstein, M., Kilic, T., & Oseni, G. (2014). *Decomposition of gender differentials in agricultural productivity in Ethiopia* (Policy Research Working Paper No. 6764). Washington D.C.: The World Bank.
- Akram-Lodhi, A. H. (1996). You are not excused from cooking: Peasants and the gender division of labor in Pakistan. *Feminist Economics*, 2(2), 87-105.
- Alemu, T., & Lindtjorn, B. (1995). Physical activity, illness and nutritional status among adults in a rural Ethiopian community. *International Journal of Epidemiology*, 24(5), 977-983.
- Alene, A. D., Manyong, V. M., Omany, G. O., Mignouna, H. D., & Bokanga, M. (2008). Economic efficiency and supply response of women as farm managers: Comparative evidence from western Kenya. *World Development*, 36(7), 1247-1260.
- Alfani, F., Azzarri, C., d'Errico, M., & Molini, V. (2012, October). *Poverty in Mozambique: New evidence from recent household surveys* (Policy Research Working Paper No. 6217). Washington D.C.: The World Bank.
- Ali, D., Bowen, D., Deininger, K., & Duponchel, M. (2015, May). *Investigating the gender gap in agricultural productivity* (Policy Research Working Paper No. 7262). Washington D.C.: The World Bank.
- Alpers, E. A. (1974). Ethnicity, politics and history in Mozambique. *Africa Today*, 21(4), 39-52.
- Alpers, E. A. (1975). *Ivory and slaves: Changing pattern of international trade in east central Africa to the later nineteenth century*. Berkeley and Los Angeles: University of California Press.
- Alpers, E. A. (2000). East central Africa. In N. Levtzion & R. L. Pouwels (Eds.), *The history of Islam in Africa* (p. 303-326). Athens, Oxford and Cape Town: Ohio University Press, James Curry and David Philip.

- Antonopoulos, R., & Memis, E. (2010). *Time and poverty from a developing country perspective* (Levy Economics Institute Working Paper No. 600). New York: Levy Economics Institute of Bard College.
- Arnaldo, C. (2004). Ethnicity and marriage patterns in Mozambique. *African Population Studies*, 19(1), 143-164.
- Arnfred, S. (2001). *Family forms and gender policy in revolutionary Mozambique (1975-1985)* (Travaux et Documents No. 68-69). Bordeaux, France: Centre d'Étude d'Afrique Noire.
- Arnfred, S. (2004). *Conceptions of gender in colonial and postcolonial discourses: The case of Mozambique* (CODESRIA Gender Series No. 3). Dakar, Senegal: Council for the Development of Social Science Research in Africa.
- Arnfred, S. (2007). Sex, food and female power: Discussion of data material from northern Mozambique. *Sexualities*, 10(2), 141-158.
- Arnfred, S. (2011). *Sexuality and gender politics in Mozambique: Rethinking gender in Africa*. Woodbridge: James Curry.
- Arora, D. (2015). Gender differences in time-poverty in rural Mozambique. *Review of Social Economy*, 73(2), 196-221.
- Arora, D., & Rada, C. (2014, January). *Gender differences in time and resource allocation in rural households in Ethiopia*. Paper presented at Association for the Study of Generosity in Economics/International Association for Feminist Economics panel at Allied Social Science Association Meetings in Philadelphia.
- Arun, S. (1999). Does land ownership make a difference? Women's role in agriculture in Kerala, India. *Gender and Development*, 7(3), 19-27.
- Backiny-Yetna, P., & McGee, K. (2015). *Gender differentials and agricultural productivity in Niger* (Policy Research Working Paper No. 7199). Washington D.C.: The World Bank.
- Bardasi, E., & Wodon, Q. (2010). Working long hours and having no choice: Time poverty in Guinea. *Feminist Economics*, 16(3), 45-78.
- Barrett, H. R., & Browne, A. W. (1994). Women's time, labour-saving devices and rural development in Africa. *Community Development Journal*, 29(3), 203-214.
- Benería, L. (1992). Accounting for women's work: The progress of two decades. *World Development*, 20(11), 1547-1560.
- Benería, L., Berik, G., & Floro, M. (2016). *Gender, development, and globalization: Economics as if all people mattered* (2nd ed.). New York and Oxford: Routledge.
- Berik, G. (1997). The need for crossing the method boundaries in economics research. *Feminist Economics*, 3(2), 121-125.
- Bird, C. E. (1999). Gender, household labor, and psychological distress: The impact of the amount and division of housework. *Journal of Health and Social Behavior*, 40, 32-45.
- Bittman, M., & Wajcman, J. (2000). The rush hour: The character of leisure time and gender equity. *Social Forces*, 79(1), 165-189.

- Blackden, M., & Bhanu, C. (1999). *Gender, growth and poverty reduction: Status report on poverty in sub-Saharan Africa* (Technical Paper No. 428). Washington D.C.: The World Bank.
- Blackden, M., & Canagarajah, R. S. (2003, June). *Gender and growth in Africa: Evidence and issues*. Paper prepared for UNECA expert meeting on pro-poor growth in Kampala, Uganda.
- Blackden, M., & Wodon, Q. (Eds.). (2006a). *Gender, time use and poverty in sub-Saharan Africa*. Washington D.C.: The World Bank.
- Blackden, M., & Wodon, Q. (2006b). Introduction. In M. Blackden & Q. Wodon (Eds.), *Gender time use, and poverty in sub-Saharan Africa* (p. 1-7). Washington D.C.: The World Bank.
- Bleiberg, F., Brun, T. A., Goihman, S., & Gouba, E. (1980). Duration of activities and energy expenditure of female farmers in dry and rainy seasons in Upper Volta. *British Journal of Nutrition*, 43, 71-82.
- Bonate, L. J. (2003). The ascendance of Angoche: The politics of kinship and territory in nineteenth century northern Mozambique. *Lusotopie*, 115-140.
- Bryceson, D. F. (1994). Easing rural women's working day in sub-Saharan Africa. *Development Policy Review*, 12, 59-68.
- Budlender, D. (2008). *The statistical evidence on care and noncare work across six countries* (Gender and Development Programme Paper No. 4). Geneva: United Nations Research Institute for Social Development.
- Burda, M., Hamermesh, D. S., & Weil, P. (2007). *Total work, gender and social norms* (IZA Discussion Paper No. 2705). Bonn, Germany: Institute for the Study of Labor.
- Carmona, M. S. (2013). *Report of the special rapporteur on extreme poverty and human rights* (UN General Assembly, 68th Session). United Nations.
- Casimiro, I. (2004). *Paz na terra, guerra em casa: feminismo e organizações de mulheres em Moçambique*. Maputo, Mozambique: Promédia, Coleção Identidades.
- Conceição, L. (1960). *Os Macuas (Monografia)*. Lourenço Marques, Moçambique: Arquivo Histórico de Moçambique.
- Conceição, O. (2006). *Sociedade matrilinear em Nampula: Estamos a falar do passado?* (Outras Vozes No. 16). Maputo, Mozambique: Women and Law in Southern Africa.
- Darity, W. (1995). The formal structure of a gender-segregated low-income economy. *World Development*, 23(11), 1963-1968.
- de Albuquerque, J. A. M. (1897). *A campanha contra os Namarraes*. Lisboa: Ministério dos Negócios da Marinha e Ultramar.
- Doss, C. (1999). *Twenty five years of research on women farmers in Africa: Lessons and implications for agricultural research institutions* (CIMMYT Economics Program Paper No. 99-02). Mexico D.F.: International Maize and Wheat Improvement Center.

- Doss, C. (2006). The effects of intrahousehold property ownership on expenditure patterns in Ghana. *Journal of African Economies*, 15(1), 149-180.
- Doss, C. (2013). *Intrahousehold bargaining and resource allocation in developing countries* (Policy Research Working Paper No. 6337). Washington D.C.: The World Bank.
- Doss, C. (2014). If women hold up half the sky, how much of the world's food do they produce? In A. R. Quisumbing, R. Meinzen-Dick, T. L. Raney, A. Croppenstedt, J. A. Behrman, & A. Peterman (Eds.), *Gender in agriculture: Closing the knowledge gap* (p. 69-88). Dordrecht: Springer.
- Doss, C. (2015). *Women and agricultural productivity: What does the evidence tell us?* (Economic Growth Center Discussion Paper No. 1051). Economic Growth Center, Yale University.
- Durnin, J., & Passmore, R. (1967). *Energy, work and leisure*. London: Heinemann Educational Books.
- Eide, A. H., & Kamaleri, Y. (2009). *Living condition among people with disabilities in Mozambique: A national representative study* (Tech. Rep.). Oslo, Norway: SINTEF Health Research.
- Ellis, F. (1993). *Peasant economics: Farm households in agrarian development* (2nd ed.). Cambridge, England: Cambridge University Press.
- Elson, D. (2008, November). *The three R's of unpaid work: Recognition, reduction and redistribution*. Paper presented at the Expert group meeting on unpaid work, economic development and human well-being at United Nations Development Program in New York.
- Evers, B., & Walters, B. (2001). The model of a gender-segregated low-income economy reconsidered: Evidence from Uganda. *Review of Development Economics*, 5(1), 76-88.
- Fafchamps, M., Kebede, B., & Quisumbing, A. R. (2009). Intrahousehold welfare in rural Ethiopia. *Oxford Bulletin of Economics and Statistics*, 71(4), 567-599.
- FAO. (1998). *Rural women and food security: Current situation and perspectives*. Rome: Food and Agriculture Organization of the United Nations.
- FAO. (2010). *Global forest resources assessment 2010: Country report, Mozambique*. Rome: Forestry Department, Food Agriculture Organization of the United Nations.
- FAO. (2011). *The state of food and agriculture 2010-11. Women in agriculture: Closing the gender gap for development*. Rome: Food and Agriculture Organization of the United Nations.
- Ferreira, A. R. (1958). *Agrupamento e caracterização étnica dos indigenas de Moçambique* (Tech. Rep. No. 50). Lisboa: Estudos ensaios e documentos.
- Floro, M. S. (1995). Women's well-being, poverty, and work intensity. *Feminist Economics*, 1(3), 1-25.
- Floro, M. S., & Pichetpongsa, A. (2010). Gender, work Intensity, and well-Being of Thai home-based workers. *Feminist Economics*, 16(3), 5-44.

- Folbre, N. (2006). Measuring care: Gender, empowerment and the care economy. *Journal of Human Development*, 7(2), 183-199.
- Folbre, N., & Yoon, J. (2007). What is child care? Lessons from time-use surveys of major English-speaking countries. *Review of Economics of Household*, 5, 223-248.
- Fonchingong, C. (1999). Structural adjustment, women and agriculture in Cameroon. *Gender and Development*, 7(3), 73-79.
- Fortuna, C. (1993). *O fio da meada: O algodão de Moçambique, Portugal e economia-mundo, 1860-1960*. Porto: Edições Afrontamento.
- Frankenhaeuser, M. (1991). The psychophysiology of sex differences as related to occupational status. In M. Frankenhaeuser, U. Lundberg, & M. Chesney (Eds.), *Women, work and health: Stress and opportunities* (p. 39-59). New York and London: Plenum Press.
- Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, 77(1), 65-78.
- Gammage, S. (2010). Time pressed and time poor: Unpaid household work in Guatemala. *Feminist Economics*, 16(3), 79-112.
- Gammage, S., Kabeer, N., & van der Meulen Rodgers, Y. (2016). Voice and agency: Where are we now? *Feminist Economics*, 22(1), 1-29.
- Geffray, C. (2000). *Nem pai nem mãe: Crítica do parentesco o caso Macua*. Maputo, Mozambique: Ndjira: Coleção Estudos Africanos.
- Gilbert, R. A., Sakala, W. D., & Benson, T. D. (2002). Gender analysis of a nationwide cropping system trial survey in Malawi. *African Studies Quarterly*, 6(1-2), 223-243.
- Gittinger, J. P., Chernick, S., Horenstein, N. R., & Saito, K. (1990). *Household food security and the role of women* (Discussion Paper No. 96). Washington D.C.: The World Bank.
- Goldstein, M., & Udry, C. (2008). The profits of power: Land rights and agricultural investments in Ghana. *Journal of Political Economy*, 116(6), 981-1022.
- Hafkin, N. (1973). *Trade, society and politics in northern Mozambique, c.1753-1913* (Unpublished doctoral dissertation). Boston University Graduate School, Boston.
- Henriksen, T. (1978). Marxism and Mozambique. *African Affairs*, 77(309), 441-462.
- IFAD. (2009). *Gender in agriculture sourcebook*. Rome: The World Bank, International Fund for Agricultural Development and Food and Agriculture Organization.
- Ilahi, N. (1999). *Gender and the allocation of adult time: Evidence from the Peru LSMS panel data* (Mimeograph). Washington D.C.: The World Bank.
- Ilahi, N. (2000). *The intrahousehold allocation of time and tasks: What have we learnt from the empirical literature?* (Policy Research Report on Gender and Development Working Paper Series No. 13). Washington D.C.: The World Bank.

- Ironmonger, D. (2004). Bringing up betty and bobby: The inputs and outputs of childcare time. In N. Folbre & M. Bittman (Eds.), *Family time: The social organization of care* (p. 93-109). London: Routledge.
- Isaacman, A. (1996). *Cotton is the mother of poverty: Peasants, work and rural struggle in colonial Mozambique, 1938-61*. Portsmouth: Heinemann.
- Jacoby, H. G. (1992). Productivity of men and women and the sexual division of labor in peasant agriculture of the Peruvian Sierra. *Journal of Development Economics*, 37, 265-287.
- Jewkes, R., Flood, M., & Lang, J. (2015). From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls. *Lancet*, 385, 1580-89.
- Kes, A., & Swaminathan, H. (2005). Gender and time poverty in sub-Saharan Africa. In M. Blackden & Q. Wodon (Eds.), *Gender, time use, and poverty in sub-Saharan Africa* (p. 13-26). Washington D.C.: The World Bank.
- Kilic, T., Palacios-Lopez, A., & Goldstein, M. (2015). Caught in a productivity trap: A distributional perspective on gender differences in Malawian agriculture. *World Development*, 70, 416-463.
- Koopman, J. (1991). Neoclassical household models and models of household production: Problems in the analysis of African agricultural households. *Review of Radical Political Economics*, 23(3-4), 148-173.
- Koopman, J. (1997). The hidden roots of the African food problem: Looking within the rural household. In N. Visvanathan, L. Duggan, L. Nisonoff, & N. Wiegiersma (Eds.), *The women, gender and development reader* (p. 132-141). London: Zed Books.
- Kumar, S. K., & Hotchkiss, D. (1988). *Consequences of deforestation for women's time allocation, agricultural production and nutrition in hill areas of Nepal* (Research Report No. 69). Washington D.C.: International Food Policy Research Institute.
- Lado, C. (1992). Female labor participation in agricultural production and the implications for nutrition and health in Africa. *Social Science and Medicine*, 34(7), 789-807.
- Levtov, R. G., Barker, G., Contreras-Urbina, M., Heilman, B., & Verma, R. (2014). Pathways to gender-equitable men: Findings from the international men and gender equality survey in eight countries. *Men and Masculinities*, 17(5), 1-35.
- Lopes, A. A. (1960). *Notas sobre os usos e costumes dos indígenas do posto administrativo de Corrane*. Lourenço Marques.
- Machado, A. J. D. M. (1970). *Entre os Macuas de Angoche: Historiando Moçambique*. Lisboa: Prelo.
- Machel, S. (1973). *Discurso na 1a confererencia da OMM*. Maputo.
- Malmberg-Calvo, C. (1991). *Intermediate means of transport in sub-Saharan Africa: The potential for improving rural travel and transport* (Africa Technical Department Discussion Paper No. 161). Washington D.C.: The World Bank.

- Martínez, F. L. (1989). *O povo macua e a sua cultura*. Lisboa: Ministério da Educação, Instituto de Investigação Científica Tropical.
- Marzoli, A. (2007). *Relatório do inventário florestal nacional*. Maputo, Mozambique: Direcção Nacional de Terras e Florestas, Ministério da Agricultura.
- Mattingly, M. J., & Bianchi, S. M. (2003). Gender differences in the quantity and quality of free time: The U.S. Experience. *Social Forces*, 81(3), 999-1020.
- Mbwiliza, J. F. (1991). *History of commodity production in Makuani 1600-1900: Mercantilist accumulations to imperialist domination*. Dar es Salaam: Dar es Salaam University Press.
- Medeiros, E. (1985). *Evolução de algumas instituições socio familiares* (Cadernos da História, Boletim do Departamento da História No. 1). Maputo, Mozambique: Universidade Eduardo Mondlane.
- Medeiros, E. (1995). *Os senhores da floresta*. Universidade de Coimbra.
- Meeker, J., & Meekers, D. (1997). The precarious socio-economic position of women in rural Africa: The case of the Kaguru of Tanzania. *African Studies Review*, 40(1), 35-58.
- MISAU, INE, & ICFI. (2013). *Moçambique: Inquerito demográfico e de saúde, 2011*. Calverton, Maryland: Instituto Nacional de Estatística, ICF International and Ministério da Saúde (MISAU).
- MISAU, INE, & ICFMacro. (2010). *Inquerito nacional de prevalência, riscos comportamentos e Informação sobre o HIV e SIDA em Moçambique 2009*. Calverton, Maryland: Instituto Nacional de Estatística, ICF Macro and Ministério da Saúde (MISAU).
- Newitt, M. (1995). *A history of Mozambique*. Indiana: Indiana University Press.
- Newman, C. (2001). Gender, time use and change: The impact of the cut flower industry in Ecuador. *The World Bank Economic Review*, 16(3), 375-396.
- Ngome, A. (2003). *Gender division of labour and women's decision-making power in rural households: The case of Mbalangi, Ediki and Mabonji villages of Meme Division* (Unpublished doctoral dissertation). Department of Women and Gender Studies, University of Buea, Cameroon.
- Nti, C. A., Inkumsah, D., & Fleischer, G. (1999). Influence of women's workload on their nutritional status in selected communities in Ghana. *Journal of Consumer Studies and Home Economics*, 23(3), 165-170.
- Olmsted, J. C. (1997). Telling Palestinian women's economic stories. *Feminist Economics*, 3(2), 141-151.
- O'Neill, H. E. (1882). A three months' journey in the Makua and Lomwe countries. *Proceedings of the Royal Geographical Society and Monthly Record of Geography, New Monthly Series*, 4(4), 193-213.
- Oseni, G., Corralb, P., Goldsteinc, M., & Winters, P. (2015). Explaining gender differentials in agricultural production in Nigeria. *Agricultural Economics*, 46, 285-310.

- Peterman, A., Quisumbing, A. R., Behrman, J. A., & Nkonya, E. (2011). Understanding gender differences in agricultural productivity in Uganda and Nigeria. *Journal of Development Studies*, 47(10), 1482-1509.
- Pfeiffer, J. (2003). Cash income, intrahousehold cooperative conflict, and child health in central Mozambique. *Medical Anthropology*, 22(2), 87-130.
- Pitamber, S., & Hanoomanjee, E. (2004). *Mozambique: Agriculture and rural development northeast and south region* (Multi Sector Country Gender Profile). Maputo, Mozambique: African Development Bank.
- Pitcher, A. (1996). Conflict and cooperation: Gendered roles and responsibilities within cotton households in northern Mozambique. *African Studies Review*, 39(3), 81-112.
- Quisumbing, A. R. (1994). *Improving women's agricultural productivity as farmers and workers* (ESP Discussin Paper Series No. 37). Washington D.C.: Education and Social Policy Department, The World Bank.
- Quisumbing, A. R., & Maluccio, J. A. (2003). Intrahousehold allocation and gender relations: New empirical evidence from four developing countries. *Oxford Bulletin of Economics and Statistics*, 68(3), 283-328.
- Quisumbing, A. R., & Yohannes, Y. (2004). *How fair is workfare? Gender, public works and employment in rural Ethiopia* (Policy Research Working Paper No. 3492). Washington D.C.: The World Bank.
- Saito, K., Mekonnen, H., & Spurling, D. (1994). *Raising the productivity of women farmers in sub-Saharan Africa* (Africa Technical Department Discussion Paper No. 230). Washington D.C.: The World Bank.
- Sardenberg, C., Costa, A. A., & Passos, E. (1999). Rural development in Brazil: Are we practising feminism or gender? *Gender and Development*, 7(3), 28-38.
- Sheldon, K. (2002). *Pounders of grain: A history of women, work and politics in Mozambique*. Portsmouth, NH: Heinemann.
- Sicard, S. V. (2008). Islam in Mozambique: Some historical and cultural perspectives. *Journal of Muslim Minority Affairs*, 28(3), 473-490.
- Sikod, F. (2007). Gender division of labour and women's decision-making power in rural households in Cameroon. *Africa Development*, 32(3), 58-71.
- Slavchevska, V. (2015). Gender differences in agricultural productivity: The case of Tanzania. *Agricultural Economics*, 46, 335-355.
- Sow, F. D. (2010). *Intrahousehold resource allocation and well-being: The case of rural households in Senegal* (Unpublished doctoral dissertation). Wageningen University.
- Sparks, K., Cooper, C., Fried, Y., & Shirom, A. (1997). The effect of hours of work on health: A meta-analytic review. *Journal of Occupational and Organizational Psychology*, 70(4), 391-408.

- Stevano, S. (2014). *Women's work, food and household dynamics: A case study of northern Mozambique* (Unpublished doctoral dissertation). School of Oriental and African Studies, University of London, London.
- Tarimo, E. A. M., Kohi, T. W., Outwater, A., & Blystad, A. (2009). Gender roles and informal care for patients with AIDS: A qualitative study from an urban area in Tanzania. *Journal of Transcultural Nursing*, 20(1), 61-68.
- Thomson, A., Billewicz, W., Thompson, B., & McGregor, I. (1966). Body weight changes during pregnancy and lactation in rural African (Gambian) women. *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 73(5), 724-733.
- Tibaijuka, A. K. (1984). *An economic analysis of smallholder banana-coffee farms in the Kagera region, Tanzania: Cause of decline in productivity and strategies for revitalization* (Unpublished doctoral dissertation). Swedish University of Agricultural Sciences, Uppsala.
- Tibaijuka, A. K. (1994). The cost of differential gender roles in African agriculture: A case study of smallholder banana-coffee farms in the Kagera region, Tanzania. *Journal of Agricultural Economics*, 45(1), 69-81.
- Tvedten, I., Paulo, M., & Rosario, C. (2006). *"Opitanha" social relations of rural poverty in northern Mozambique* (CMI Report No. 16). Bergen, Norway: Chr. Michelsen Institute.
- Udry, C. (1996). Gender, agricultural production, and the theory of the household. *Journal of Political Economy*, 104(5), 1010-1046.
- Udry, C., Hoddinott, J., Alderman, H., & Haddad, L. (1995). Gender differentials in farm productivity: Implications for household efficiency and agricultural policy. *Food Policy*, 20(5), 407-423.
- UNAC, & GRAIN. (2015). *The land grabbers of the Nacala corridor: A new era of struggle against colonial plantations in northern Mozambique*. Barcelona, Spain: União Nacional de Camponeses and GRAIN.
- UNDP. (2014). *Sustaining human progress - Reducing vulnerabilities and building resilience: Human development report 2014*. New York: United Nations Development Programme.
- Vaananen, A., V. Kevin, M., Ala-Mursula, L., Pentti, J., Kivimaki, M., & Vahtera, J. (2005). The double burden of and negative spillover between paid and domestic work: Associations with health among men and women. *Women and Health*, 40(3), 1-18.
- van Staveren, I. (2013). How gendered institutions constrain women's empowerment. In D. M. Figart & T. L. Warnecke (Eds.), *Handbook of research on gender and economic life*. Cheltenham and Northampton: Edward Elgar.
- van Staveren, I., & Odebode, O. (2007). Gender norms as asymmetric institutions: A case study of Yoruba women in Nigeria. *Journal of Economic Issues*, 41(4), 903-925.
- Vickery, C. (1977). The time-poor: A new look at poverty. *The Journal of Human Resources*, 12(1), 27-48.
- Virtanen, M., Heikkilä, K., Jokela, M., Ferrie, J. E., Batty, G. D., Vahtera, J., & Kivimaki, M. (2012). Long working hours and coronary heart disease: A systematic review and meta-analysis. *American Journal of Epidemiology*, 176(7), 586-596.

- wa Githinji, M., Konstantinidis, C., & Barenberg, A. (2014). Small and productive : Kenyan women and crop choice. *Feminist Economics*, 20(1), 101-129.
- Wangui, E. E. (2003). *Links between gendered division of labour and land use in Kajiado district, Kenya* (LUCID Working Paper No. 23). Nairobi, Kenya: International Livestock Research Institute.
- Waring, M. (2003). Counting for something! Recognising women's contribution to the global economy through alternative accounting systems. *Gender and Development*, 11(1), 35-43.
- Warner, J. M., & Campbell, D. A. (2000). Supply response in an agrarian economy with non-symmetric gender relations. *World Development*, 28(7), 1327-1340.
- Whiteley, W. (1954). Modern local government among the Makua. *Africa: Journal of International African Institute*, 24(4), 349-358.
- Williams, K. J., Suls, J., Alliger, G. M., Learner, S. M., & Wan, C. K. (1991). Multiple role juggling and daily mood states in working mothers: An experience sampling study. *Journal of Applied Psychology*, 76(5), 664-674.
- Zacharias, A., Antonopoulos, R., & Masterson, T. (2012). *Why time deficit matter: Implications for the measurement of poverty*. New York: Levy Economics Institute of Bard College.