WOMEN'S ACCESS TO SUSTAINABLE ENERGY: THE MALAWI CASE

•

BY

Gertrude Zoe KABWAZI

Supervisor: Ms Rosalie Katsande

A Dissertation submitted in partial fulfilment of the requirements for a Masters Degree in Women's Law, Southern and Eastern African Regional Centre for Women's Law, University of Zimbabwe

2014

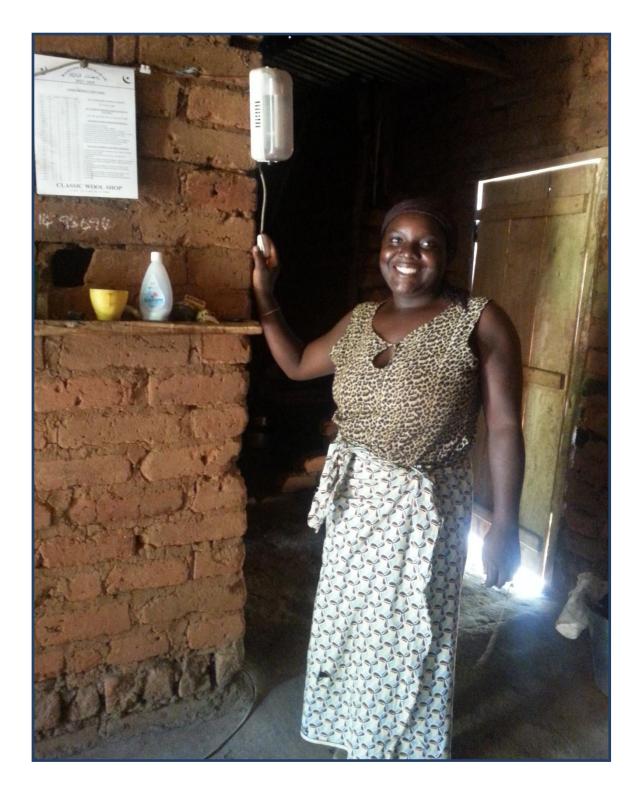


Figure 1: Photograph of one of the beneficiaries of Mary Maduka's Project, PatumbaMbota.

Abstract

This dissertation is based on a study of women's access to sustainable energy in Malawi. Sustainable energy for all is one of the goals being pursued in sustainable development. Using qualitative methods and engaging methodological processes that enhance an understanding of women's lived realities, the study unmasks factors contributing to women's lack of or limited access to sustainable energy and the impacts thereof. The study also analyses policy and legal frameworks as well as the actors and structures relevant in creating an enabling environment for women's access to sustainable energy

Declaration

I, GERTRUDE ZOE KABWAZI, do hereby declare that this is an original work presented towards the award of the Masters in Women's Law, University of Zimbabwe, not previously presented for any degree or other award in any academic institution.

Signed...... Date.....

This work is approved for submission towards fulfilment of the degree of Masters in Women's Law by the Supervisor.

Dedication

To all Malawian women whose labour must not only be reduced but also be appreciated. To my husband, Wiseman, thank you for never standing on the path of my dreams. To my children, Mphanda and Tsinde, for your love. To my mother, Anamasina, for your admirable virtues.

Acknowledgements

I am indebted to women in Kamowa, Kumbilina, Jumbe and Stande Villages in Traditional Authority Kunthembwe, Blantyre Rural and George, Goliyo communities in Ndirande, Blantyre Urban whose situations and experiences provided a window through which to look at issues related to women and sustainable energy development in Malawi.

Specifically, I would like to thank my supervisor Rosalie Katsande, who not only provided guidance in the research process but also mentored me in the hearing of and paying heed to women's voices even when they were not speaking.

I would also want to acknowledge the contribution of Professor Julie Stewart, Professor Anne Hellum, Doctor NgeyiKanyongolo and Professor Patricia Kameri-Mbote for their support.

The contributions from CISONEC, the Ministry of Gender, the Ministry of Energy, UNDP, CCODE, WILSA, WOLREC, COWFA, the Southern Region Women's Forum, CARD, CEPA are immensely valued.

My sincere gratitude goes to SEARCWL for granting me this learning and transforming opportunity but most importantly for the financial and technical support. And to all the SEARCWL staff for support which created an enabling environment for my work.

Last but not least I thank members of SEARCWL class of 2013/2014 for the support during the time we spent together in and outside class, sharing and reflecting on our research topics and methodologies.

Acronyms

AIDS	Acquired Immunodeficiency Syndrome
AWID	Association for Women's Rights in Development
BEST	Biomass Energy Strategy Malawi
BSHDC	Blantyre Synod Development Commission
CA	Conservation Agriculture
CCODE	Centre for Community Organisation and Development
CEDAW	Convention on the Elimination of All Forms of Discrimination Against
	Women
COMESA	Common Market for Eastern and Southern Africa
COMPASS	Community Partnerships for Sustainable Resource Management Project
COWFA	Coalition of Women Farmers
EDRC	Energy & Development Research Centre
EOLSS	Encyclopaedia of Life Support Systems
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICTSD	International Centre for Trade and Sustainable Development
IEA	International Energy Agency
IHS3	Third Integrated Household Survey, 2011
IOB	The Policy and Operations Evaluation Department of the Dutch Ministry of
	Foreign Affairs
MGDS	Malawi Growth and Development Strategy II
MHRC	Malawi Human Rights Commission
MK	Malawi kwacha
MNEP	Malawi National Energy Policy
MNGP	Malawi National Gender Policy
MP	Member of Parliament
NCATF	National Conservation Agriculture Task Force
NEPAD	New Partnership for Africa's Development

NGO	Non-Governmental Organisation
NGO-GCN	Non-Government Organisation-Gender Coordination Network
NHDR	National Human Development Report
NSO	National Statistical Office
PGT	Pursuing Grounded Theory
SADC	Southern Africa Development Committee
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WHO	World Health Organisation
WLSA	Women and Law in Southern Africa
WOLREC	Women Legal Resource Centre
WECF	Women in Europe for a Common Future

List of national laws and policies

Government of Malawi. National Energy Policy (2007) Government of Malawi. Environmental Outlook Report (2010) Government of Malawi. Forestry Act (1997) Government of Malawi. National Environmental Management Act (1996) Government of Malawi. National Environmental Policy (2004) Government of Malawi. National Forestry Policy (1996) Government of Malawi. National Gender Policy (2008) Government of Malawi. The Constitution of the Republic of Malawi (1994) Government of Malawi. The Malawi National Land Policy (2002) Government of Malawi. Study Report on Gender Mainstreaming and Formulation of Strategy for Local Government in Malawi (2012) Government of Malawi. Malawi BEST (2009) Malawi Biomass Energy Strategy, Government of Malawi, Lilongwe Government of Malawi. Malawi Growth and Development Strategy II Government of Malawi: MCA. Concept Paper for the Energy Sector: Public Private Partnerships on Electricity Generation for Rural Areas (2011-2016)

List of international law instruments

Amnesty International USA: Women's Rights. Available online on http://www.amnestyusa.org/our-work/issues/women-s-rights Accessed on September 10, 2013

Convention on the Elimination of All Forms of Discrimination Against Women (1979)

International Covenant on Social, Economic and Cultural Rights (1966)

Rio Declaration on Environment and Development, 1992 (United Nations Conference on Environment and Development)

List of figures

Figure 1: Photograph of one of the beneficiaries of Mary Maduka's Project, PatumbaMbota. ii
Figure 2: Photograph of group of women working on the daily activity calendar in the sand
on the ground
Figure 3: One of the daily schedules transferred on to paper (Adapted from International
HIV/AIDS Alliance 2006)
Figure 4: Photograph of a woman cooking using the traditional three stone method in
Kumbilina Village, Blantyre Rural40
Figure 5: Photograph of an energy saving stove being promoted by one of the organisations
working in Ndirande, Blantyre Urban41
Figure 6: ChitetezoMbaula, an example of a movable energy saving stove
Figure 7: Photograph of women holding polythene tubes and working in a communal tree
nursery at Jumbe Village, Blantyre Rural46
Figure 8: Pie chart representing energy consumption by sector (Source: Adapted from The
National Energy Policy, 2003)51
Figure 9: Photographs of Mary caught in action climbing a ladder to a roof (left) where she
installs a solar panel (right)
Figure 10: Photographs (left) of garden covered by maize stalks, practising CA in Stande
Village and (right) a woman collecting maize stalks for cooking67

List of tables

Table 1: Showing details of key informants	
Table 2: Showing details of individual interviewees	31
Table 3: Showing details of focus group discussions and participants	

Executive summary

Building on the United Nations quest to ensure sustainable energy for all, this study report is premised on findings and recommendations on women's access to sustainable energy conducted in two settings, one in Traditional Authority Kunthembwe, Blantyre Rural and the other in Ndirande Township, Ndirande Township. The main purpose of the study was to enhance the understanding on the implications of women's lack of or limited access to sustainable which is crucial in achieving their secure and sustainable livelihoods, key to sustainable development. Gender, women rights and energy have continued to be an area of interest in the sustainable development debate. Energy generally has been identified as key to sustainable development and poverty reduction efforts, affecting all aspects of development, social, economic, and environmental. Although access to energy is not included in the Millennium Development Goals (MDGs), it is believed that none of the Millennium Development called access to sustainable energy is poverty by 2015 (IEA, 2004).

The question the study sought to answer was, 'Do women have access to sustainable energy in Malawi?' Using qualitative methods of research this prompted an inquiry into understanding from the women's perspective and experiences, their own lived realities, related to their access to sustainable energy.

Four villages in Traditional Authority Kunthembwe, Blantyre Rural and two communities in Ndirande township, Blantyre Urban were selected. For the sake of comparison the two settings were chosen, rural and urban, with the understanding that women are not a homogenous group, categories like geographical settings, social class, economic status brings the intersectionality around women issues.

Key Findings

• The study established that women's lack of or limited access was mainly due to exclusion. The factors contributing to exclusion include unfavourable policy and legal environment characterised by gender blind policies and laws; lack of

recognition of women's knowledge and capacity; lack of or limited women's access to resources; socio-cultural values, beliefs and practices.

- The policy and legal environment does not support women's access to sustainable energy. Key legal and policy frameworks such as the National Gender Policy and the National Energy Policy do not provide policy direction on promoting women's access to sustainable energy.
- Stereotypical perceptions that sustainable energy is scientific and technical, therefore a male domain, are contributing to women's exclusion from the sustainable energy discourse.
- Women's lack of or limited access to resources such as land and other resources is limiting women's engagement in sustainable energy development.
- Socio-cultural values, beliefs and practices are contributing to excluding women from sustainable energy development.
- Policy makers and programme planners have limited understanding of women energy needs. Women's needs are generalised based on their role as energy providers, which is associated with availability, evident in the popularised objective of saving women's time and reducing their drudgery by providing energy saving technologies.
- Women's rights organisations in Malawi, which can play important roles as educators and activists concerning energy efficiency not engaged in sustainable energy development agendas.
- The National Gender Machinery, whose mandate is to promote gender equality and women's rights is not engaging in sustainable energy development.

• In policies and programmes assessed by the study women are treated as a homogenous group. This has implications as women energy needs vary evident in the two studies set ups, the urban and the rural.

Recommendations

- There is need to improve the understanding of gender equality, women rights and sustainable energy development nexus. Policy makers and development planners need to understand and appreciate that women can be powerful actors for change in the transition to sustainable energy.
- Gender analysis for the energy sector needs to be promoted as this will help to understand the gender related and women specific needs.
- Women-led sustainable energy initiatives and projects should be promoted. Studies have shown that they are successful in the new energy era. Women should be front-liners as entrepreneurs and providers of sustainable energy solutions at the national and community levels.
- Government policies related to sustainable energy and gender equality should be 'talking-to-each-other'. There is need for well aligned polices that relate and inform each other.
- There is need to build the capacity of the National Gender Machinery with knowledge on the linkage between gender equality and sustainable energy development.
- There is need for Government to domesticate legal provisions in international instruments which are providing for the rights to access sustainable energy.

Table of contents

Table of contents	xiv
Declaration	iv
Dedication	v
Acknowledgements	vi
Acronyms	vii
List of national laws and policies	ix
List of international law instruments	ix
List of figures	X
List of tables	X
Executive summary	xi
CHAPTER 1	1
1.0 INTRODUCTION AND BACKGROUND TO THE STUDY	1
1.1 The motivation for the study	1
1.2 Context and background	1
1.3 Problem statement	2
1.4 Justification for the study	3
1.5 Study objectives	4
1.5.1 Specific objectives	4
1.6 Research assumptions	4
1.7 Research questions	5
1.8 Conclusion	5
CHAPTER 2	6
2.0 CONCEPTUAL AND THEORETICAL FRAMEWORK	6
2.1 Introduction	6
2.2 Key concepts in the study	6
2.2.1 Unpacking gender equality	7
2.2.1.1 The concept of gender	7
2.2.1.2 The conceptualisation of gender in Malawi	8
2.2.1.3 The concept of equality	10
2.2.1.4 The conceptualisation of equality in Malawi	12
2.2.1.5 The concept of gender equality	
2.2.1.6 The conceptualisation of gender equality in Malawi	14

2.2.2 Unpacking sustainable energy	15
2.2.2.1 The concept of 'sustainability'	15
2.2.2.2 The conceptualisation of sustainability in Malawi	16
2.2.2.3 The concept of energy	17
2.2.2.4 The conceptualisation of energy in Malawi	17
2.2.2.5 The concept of sustainable energy	18
2.2.2.6 The conceptualisation of sustainable energy in Malawi	19
2.3 Policy and legal frameworks	19
2.4 Conclusion	
CHAPTER 3	24
3.0 THE RESEARCH PROCESS	24
3.1 My research process	24
3.1.1 Getting started	
3.1.2 Women, the centre of gravity	
3.1.3 Following the leads	
3.1.4 Using gender lenses	
3.1.5 Understanding the role and influence of other actors and structures	
3.1.6 My experiential data	
3.2 Organisation of the research process	29
3.2.1 Site selection	
3.2.2 Sampling	
3.2.3 Data collection	
3.2.3.1 Focus group discussion (FGD)	31
3.2.3.2 Individual interviews/Key informant interviews	
3.2.3.3 Data validation	
3.2.3.4 Observation 34	
3.2.4 Analysis	
3.2.5 Study limitations	
3.3 Conclusion	
CHAPTER 4	37
4.0 STUDY OUTCOMES	37
4.1 Energy situation in Blantyre urban and rural	
4.1.1 Energy source	

4.1.2	Availability	38
4.1.3	Accessibility	
4.1.4	Affordability	
4.1.5	Sustainability	45
4.2 A	A closer look at the factors contributing to women's exclusion	47
4.2.1	The unconducive legal and policy environment	47
4.2.	1.1 Gaps in the draft National Gender Policy	47
4.2.	1.2 Gaps in the National Energy Policy	49
4.2.2	Lack of recognition of women's knowledge and capacities	52
4.2.	2.1 Harnessing women's potential in sustainable energy development	54
4.2.3	The lack of or limited access to and control over resources key in sustainable en	ergy
	development	56
4.2.4	Weak structures and institutions	58
4.2.	4.1 Women's rights organisations	58
4	.2.4.1.1 Limited focus on social and economic rights	59
4	2.4.1.2 LIMITED PARTICIPATION IN POLICY AND LEGAL REFORM	60
4	.2.4.1.3 POOR CO-ORDINATION	61
4	.2.4.1.4 Lack of Strategic Guidance on Women Rights Work	61
4.2.	4.2 The national gender machinery	62
4	2.4.2.1 Lack of engagement in Sustainable Energy Development	62
4	.2.4.2.2 INADEQUATE CAPACITY	63
4	2.4.2.3 Compromised Position on Women's Rights	63
4	.2.4.2.4 Dysfunctional Support Structures	63
4	.2.4.2.5 WINDOW DRESSING	64
4.2.5	Socio-cultural values, beliefs and practices	64
4.3 In	mpact of women's lack of or limited access to sustainable energy	66
4.3.1	Women's limited engagement in other development initiatives	66
4.3.2	Failure to use knowledge on improving nutrition	67
4.3.3	Failure to engage effectively in business development	68
CHAPTER	5	69
	NCLUSIONS AND RECOMMENDATIONS	
5.1 C	Conclusions	69
C		

5.2	Recommendations	
Bibliog	graphy	72

CHAPTER 1

1.0 INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 The motivation for the study

Women's access to sustainable energy is an area in the women's rights discourse that has not been adequately addressed. Falling under the wings of the social and economic rights, many women rights organisations and activists have been focusing more on promoting civil and political rights. As a women's rights champion, I wanted to contribute to the engagement in promoting social and economic rights, illuminating how critical they are in attaining gender equality and women empowerment.

Women make up a little over half of the world's population but often have unequal access to resources, education and income; they participate less in decision-making. The fact that they produce 60 to 80% of the world's food (Kameri-Mbote, Hellum and Nyamweya, 2011), shows the face of the gender injustice that the world needs to pay attention to and take action on. These reasons coupled with my own experiential data triggered my interest in focusing my research on women's access to resources.

There is growing evidence of the relationship between gender equality and sustainable energy. The link has been explored by many researchers. However, I identified a need to understand this linkage in the Malawi context as I had not come across any detailed study report promoting understanding of women's access to sustainable energy development, which confirmed the relevance of the study.

1.2 Context and background

'A change in the energy production paradigm is necessary, and women should be at the forefront of the energy revolution.' The Hon. Ms. Elizabeth Thabethe, Deputy Minister, Department of Trade and Industry, South Africa, Power Kick for Africa 2011 Conference, Nigeria.

Principle 20 of the Rio Declaration is recognised as the first international document to highlight that gender inequality impedes sustainable development. It acknowledges women's

role as vital in environmental management and development and that their full participation is essential in achieving sustainable development (Stock, 2013). However studies have shown that this role is undermined by, among other things, their lack of or limited access to resources.

Access to resources is a key theme in the discourse on women's rights (Kameri-Mbote, Hellum and Nyamweya, 2011). Women lack or have limited access to resources such as sustainable energy. Access to affordable, locally appropriate and environmentally sustainable sources of energy has been identified as one of the pathways to achieving sustainable development (UN, 2006). In developing countries like Malawi especially in rural areas and among the urban poor, lack of sustainable energy contributes to women's confinement to hollows of poverty and limits their options to secure and sustainable livelihoods. Malawi is one of the countries that recognised gender inequalities as impeding on women's rights (GoM-Draft National Gender Policy, 2011). While there is some celebrated progress such as increased number of women parliamentarians in 2004 election, decline in gender disparities particularly for primary and secondary school education, women in Malawi still remain the poorest (KabwilaKapasula, 2012), with among other things limited or no access to sustainable energy.

Efforts to reduce poverty among women in most communities are said to be challenged by the mismatch between women's lived realities and certain sectoral policies and implementation strategies, and by retrogressive legal ordering (UNDP, 2010). This has been attributed to the lack of women's involvement in the sustainable development discourse. Women continue to experience exclusion and have remained outside the development circles and have failed to influence key agendas such as sustainable energy development.

1.3 Problem statement

'Women can and must play an active role in the planning, producing, supplying and managing of energy. There can be no energy for all that is sustainable unless we tap into the energy, engagement and expertise of women.' Lakshmi Puri, Acting Head of UN Women, April 2013. In Malawi a heavy reliance on biomass energy has been blamed for the country's environmental degradation especially deforestation. Deforestation has been highlighted as one of the developmental threats. Studies show that in the 1960s, more than half of Malawi's land area was covered by forest. This was reduced by reduced to 45% by 1972 and assessments done in 1990 showed a decrease of forest cover by 41% (Kambewa and Chiwaula, 2010). Studies have shown that unsustainable fuel wood has economic, political, environmental, social, cultural implications.

The social implications include those related to gender inequality. The Third Integrated Household Survey (NSO-IHS3, 2011) done by the National Statistical Office shows the most common source of cooking energy in Malawi is firewood pegged at 88 percent, charcoal at 9%, electricity at 3% and other means of fuel for cooking at 1%. Urban areas register a proportion of household firewood usage (42 %) compared to households in rural areas which are recorded at 96% (NSO-IHS3, 2011). Although there is a slight decrease in usage of biomass energy and an increase in the usage of electricity rural and urban poor women still continue to face challenges in accessing sustainable energy sources (Kambewa and Chiwaula, 2010).

Women's energy requirements are not essentially unique from men's. However, there is recognition that when social traditions prescribe distinct gendered roles, failure to recognise the differences can lead to policies and projects that do not improve the lives of women, particularly those in rural areas and urban poor women. This may make their lives more difficult by reinforcing women's low status, economic disadvantages, poor health and lack of power (UN, 2005). The study is aimed at understanding women's access to sustainable energy in the Malawi context, identifying the pathways and barriers.

1.4 Justification for the study

There have been efforts invested in improving the efficiency of energy usage and conservation measures such as the development of Malawi Biomass Energy Strategy (BEST) in 2009. BEST's main objective is to improve sustainability of biomass energy supply and promote appropriate alternatives (GoM-BEST, 2009). According to the Department of energy, Malawi is on the path to developing country context specific sustainable energy policy frameworks, addressing the gaps in the expired 2003 energy policy which did not

include much on sustainable/renewable energy. As policy makers engage in the policy review and revision and as development planners come up with programmes/projects related to sustainable energy, there is a need therefore to inform the processes on the related gender dynamics and to ensure that women issues are well accommodated. Women are insufficiently represented in decision-making processes on in the energy sectors. They need to be included, not because they are 'victims' but because they have different perspectives and experiences to contribute. This study aims at contributing to the processes, informing policy makers and development planners on the need to understand the gender dynamics related to access to sustainable energy.

1.5 Study objectives

The overarching goal of the research is to contribute to understanding of women's role in sustainable energy development in Malawi.

1.5.1 Specific objectives

- To assess and analyse women's roles in sustainable energy development.
- To identify key barriers and pathways for women's involvement in sustainable energy development.
- Identify and analyse how projects, legal and policy frameworks related to sustainable energy are either facilitating or impeding women's involvement in sustainable energy development.
- To assess the level of engagement of women rights organisations/movements in sustainable energy development.
- To assess and analyse the role of the national gender machinery in sustainable energy development.

1.6 Research assumptions

- Rural and urban women do not have access to appropriate technologies to ensure sustainable energy usage.
- Rural and urban women are not effectively and meaningfully engaged in the sustainable energy debate/discussions, especially at decision and policy making levels.

- Women's rights organisations are not effectively engaging and articulating the sustainable energy and gender debate/agendas.
- The national gender machinery is not engaging and informing the sustainable energy agendas.
- Energy related policies and laws are gender insensitive and therefore contributing to discrimination against women in Malawi.

1.7 Research questions

- Do rural and urban women have access to appropriate technologies to ensure sustainable energy usage?
- Are rural and urban women effectively and meaningfully engaged in the sustainable energy debate/discussions, especially at decision and policy making levels?
- Are women's rights organisations effectively engaging and articulating the sustainable energy and gender debate/agendas?
- Is the national gender machinery engaging and informing the sustainable energy agendas?
- Are energy related policies and laws are gender insensitive and therefore contributing to discrimination against women in Malawi?

1.8 Conclusion

The chapter outlines the research problem, assumptions that underlie the study and the main research questions. The assumptions and research questions helped me to consider the scope of the research. The chapter also discussed the purpose of conducting the research, providing the context and background to show the topic is situated. The research problem statement and study objectives helped to justify my study, to show why my research is important. The essence of chapter one was to show that the identified problem, women's lack of or limited access to sustainable energy sources is not adequately dealt with and therefore requires attention. The research problem is the key component which informed the conceptual and theoretical framework, determined the methodologies and methods to be used.

CHAPTER 2

2.0 CONCEPTUAL AND THEORETICAL FRAMEWORK

2.1 Introduction

The conceptual and theoretical framework was the key part of my research design. This included the system of concepts and theories that supported and informed my research. Miles and Huberman (1994) have defined a conceptual framework as a visual or written product, one that 'explains, either graphically or in narrative form, the main things to be studied - the key factors, concepts, or variables - and the presumed relationships among them.'

Conceptual and theoretical understanding of sustainable energy and gender equality is diversified. Besides academic writing, there are strategy papers and documents developed by different donor organizations addressing the policy issues related to the two concepts and bring in their own understanding and experiences from their own settings and contexts. Useful theoretical and conceptual links have been used to inform the methodology of the research design, data collection and analysis.

2.2 Key concepts in the study

The overarching concepts in the study were sustainable energy and gender equality. Generally energy provision and promotion of gender equality have often been pursued separately. However both concepts have been identified as key in achieving sustainable development. According to the United Nations:

'Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs' (UN, 2005).

At the United Nations Conference on Sustainable Development (Rio+20), it was acknowledged that sustainable development requires pursuing economic, social and environmental objectives as interconnected development goals. Gender equality was identified as central to the sustainable development pursuit (UN Women, 2012). There is recognition of interconnections between gender equality and sustainable development across a range of sectors and global development issues such as energy (UN, 2005). Sustainable

energy was also identified as a key in achieving sustainable development. The Secretary-General of the United Nations said:

'Sustainable development is the imperative of the 21st century. Protecting our planet, lifting people out of poverty, advancing economic growth – these are different aspects of the same fight. We endeavour to create new business and market opportunities, new jobs, and new possibilities for human advancement. We will not achieve any of these goals without energy – sustainable energy for all' (Ban KI-moon, 2011).

2.2.1 Unpacking gender equality

2.2.1.1 The concept of gender

Gender generally refers to socially constructed rather than biologically determined roles of women and men, as well as the relationships between them in a given society at a specific time and place (Meena, 1992). It also refers to expectations which society has of women and men based on sexes (Iipinge and Williams, 2000). Gender identities and roles which are constructed in society are not fixed, not universal and can change over time. Sex is the biological and physical difference between males and females and sex roles are fixed and universally similar (Meena, 1992; Iipinge and Williams, 2000). Gender roles are roles of women and men connected to their status, environment and culture.

Socially constructed power relations between men and women in a given society determine access to resources such as sustainable energy (Watson, 2006). Women's and men's differential access to social and economic resources is one of the key aspects of gender inequality (Brody, Demetriades and Esplen, 2008).

In many communities women are subordinated and occupy lower socio-economic positions. Their roles are less visible. However, they are expected to assume primary responsibility for their families' subsistence, agricultural production and sustainable livelihood (Brody *et al.*, 2008; Banda and Mehlwana, 2005).

Related to the concept of gender is the concept of women empowerment. Women empowerment entails a bottom-up process of transforming gender power relations through individual or groups developing awareness of women's subordination and building their capacity to challenge it. Women empowerment is aimed at ensuring equitable participation in decision-making and enabling them to exercise control over their own lives. Women's improved access to sustainable energy can be achieved if women's consciousness is raised on the gender injustices and they act on them using the power within. Power within is one of the types of power used in power analysis. Power analysis is done to understand that gender injustices are about power, institutions and systems that reinforce women's subordinate position. Power within has to do with a person's sense of self-worth and self-knowledge. Women in Malawi need to be aware of their rights such as the right to development which provides for their access to resources such as sustainable energy. When they become aware, they can demand their inclusion in sustainable energy development. Inclusive sustainable energy development will contribute to their improved access to sustainable energy as their needs, capacities and knowledge.

2.2.1.2 The conceptualisation of gender in Malawi

The concept of gender was largely popularised in Malawi after the popularly known Beijing Conference in 1995. Gender as a tool for promoting gender equality and equity, is criticised for not bearing tangible fruits in Malawi after the Beijing gathering (Mwale, 2002). The majority of women continue to suffer marginalisation, discrimination and are in less privileged positions in different spheres (Kabwila-Kapasula, 2013). One of the contributing factors is lack of proper, context specific conceptualisation of gender. It has been observed that gender actors in Malawi do not share grounded theoretical capacity and fail to link the theory with what is happening on the ground. As a result, gender approaches and strategies have largely been reactive, haphazard and even counterproductive in behaviour (Langeveldt, 2011). This may be contributing to a limited understanding of the importance of promoting social and economic rights such as access to sustainable energy, alongside civil and political rights which are currently being emphasised by many gender activists.

It has been observed that Malawi as a country needs to make efforts to synergise theoretical accounts that are located in the complex realities of Malawian women themselves (Ngwira, 2012). There is a need to popularise gender success stories, women's own stories, experiences and lived realities to build a conceptual framework, role modelling process, to actualise gender equality in Malawi. They need to capture success stories and should include those promoting women's social and economic rights such as success stories of women's increased access to sustainable energy including the story of 'the Barefoot Engineers' (referred to later in this study).

Most Malawian communities are organised along the principle that man is superior to woman which is a patriarchal gender ideology. This patriarchy informs the ideological model from which gender as a concept is being conceptualised in private and public spaces (Kabwila-Kapusa, 2013). Patriarchy also affects women's position in society, including their access to resources central to sustainable energy development such as land. This is contributing to women's lack of or limited access to resources such as sustainable energy as land is one of the resources key in sustainable energy development.

Other actors and structures such as religious and cultural institutions have contributed to the failure to properly conceptualise gender. An example of a religious institution is Christianity which is very influential in Malawi. The Christian population (82.7%) dominates followed by the Muslims (13%) with other religious sects at 1.9% and those considered atheists at 2.5% (NSO-PHS, 1998).

Much reference is made to the fact that a woman is a helper. These gendered religious definitions augur well with the cultural definitions of women care givers and nurturers. These definitions have been internalised and propagated by women themselves. This resonates with the relational feminist theory which advances the ideology that women feel are carers and nurturers of the family because of their biological make up and socialisation, that women are relational because of their experience of pregnancy, heterosexual penetration and breastfeeding. Women's lives are said to be relational rather than autonomous (West, 1987). Culturally women in Malawi are also expected to provide their services of caring and nurturing for their families. These principles are propagated through socialisation structures such as the initiation ceremonies. At initiation ceremonies girls are taught how to carry out household chores (MHRC, 2005). This was indicative of a plethora of normative orders that influence the women's daily routine, confining them in their roles as care givers and home makers. This also agrees with what Bentzon *et al.* wrote in their book 'Pursuing Grounded Theory in Law':

'African Women's Law research has shown that complex and situation sensitive determinations, which affect the position of women, can and do emanate from institutions other than the state courts such as the family, church, employers, housing and land settlement agencies or traditional healer mediators' (Bentzon *et al.*, 1998).

The book also explores Sally Falk Moore's concept of the semi-autonomous social field used to understand that there are other rule generating and rule upholding processes which affect the position of women and gender relations in a situation where there are more forces of influence that inform human interaction.

This has been identified as one of the factors impeding women's participation in development agenda, since identity is a crucial catalyst of development. Women are confined to care giving roles in the private sphere such as providing energy in the home. This is mostly done through time consuming and backbreaking processes.

Many gender specialists in Malawi have no solid grounding in gender and feminist theories which would give them a lens through which to read the complex realities of women and men of Malawi (Kabwila-Kapasula, 2013). This is very true and I can testify to this. Before I studied on the Women's Law course, I had been working as a gender expert but had little grounding in feminist theories. Feminism and gender are concepts that have not been fully received into the Malawian discourse.

For Malawi to come up with its own gender solutions, the country needs a framework that defines exactly what Malawi means when it says gender. A Malawian definition of the woman question and gender would be useful. This accords with the African feminism theory which advocates for putting into context African women issues. It is premised on the understanding that feminism, which has been labelled a western concept, has to be and continues to be redefined over time to suit the needs of African women in their specific contexts. This agrees with some of the arguments that have been levelled against some of the sustainable energy technologies that have failed to address energy needs in specific energy needs, providing lessons for others to design context specific technologies.

2.2.1.3 The concept of equality

Equality is a human rights principle enshrined in almost all human rights instruments. Equality appears to be a simple concept but a diverse spectrum of opinions and definitions exist as to what it is and what should a society do to incorporate and promote this value. This has raised a lot of questions in different spheres as to what model of equality should be employed within a context. Article 1 of the Universal Declaration on Human Rights provides a basic grounding for equality in that all human beings are born free and equal in dignity and rights (UDHR, 1948). It expects all human beings to be endowed with reason and conscience and should act towards one another in a spirit of brotherhood. The Universal Declaration on Human Rights is regarded as the foundation of international human rights law. It was adopted in 1948 and has inspired a rich body of legally binding international human rights treaties. The Convention on the Elimination of Discrimination Against Women (CEDAW) specifically calls for the elimination of discrimination against women, not only requiring equality between men and women, but prohibits practices that may perpetuate women's inequality (Leilani, 2008).

However there are critiques against the concept of equality. Douglas Lummis, in 'The Development Dictionary', argues that equality should not just be taken wholesale, that it bears two meanings. He asserts that equality firstly indicates a kind of justice or fair treatment. In the second meaning, equality indicates sameness or homogeneity. Lummis argues that to treat people justly may require treating them differently and to treat them as if they were the same is not necessarily to treat them justly. He observed that equal justice for unequal people was a complex business. This resonates with the philosophies advanced through the concept of intersectionality. Intersectionality is a feminist concept identified as useful in addressing multiple forms of discrimination. As a methodology for research and a tool of analysis, it is believed to spur the social justice action agenda (AWID, 2004). Borne from critical race studies by Kimberlie Crenshaw, a legal scholar, intersectionality is grounded on the premise that women live multiple layered identities arising from their history, social relations, and operational structures of power (Sims, 2009). It is a key concept that helps increase the understanding among policy makers, legislators and other decision makers that when categories of social identity such as race, class, poverty, patriarchy converge they complicate women's lives (Tsanga et al., 2011). This is useful for policy makers and development planners in the sustainable energy discourse, as they will be open to the fact women have varying energy needs depending on multiple categories of identities. Therefore it is not just a matter of promoting equal access to sustainable energy without understanding the layers of inequalities.

2.2.1.4 The conceptualisation of equality in Malawi

Equality is enshrined in chapter four of the Malawi Constitution (1995) under human rights. Section 20(1) and (2).

In Malawi generally equality is promoted based on the principles of sameness and treating people as the same, evident in the policy and legal frameworks that promote equality based on the sameness. This has contributed to the promotion of formal equality. Formal equality is often contrasted with substantive equality. Formal equality is achieved when people are treated the same regardless of their differences. Substantive equality is achieved when one takes into account, where necessary, the differences in characteristics, circumstances and identities of people, i.e., to providing services with a distinct content or using a different method of delivery to ensure that the minority or disadvantaged groups receive services of the same quality as the majority or privileged groups (Banda, 2005). The idea of formal equality can be traced back to Aristotle and his dictum that equality meant 'things that are alike should be treated alike' (Ackrill and Urmson, 1980). This is the most widespread understanding of equality today.

So far the kind of inequality that has received more attention in Malawi is based on gender, gender inequality. This has however obscured other forms of inequalities. On a positive note it has contributed to the development of gender frameworks such as the Gender Equality Act and the Gender Equality Policy. Although the policies and legal instruments provide a supportive environment for women's rights, they have taken the path of formal equality which treats women as a homogenous group. Women in Malawi for instance have different needs when it comes to access to resources such as sustainable energy. Policies and laws need to take that into consideration.

2.2.1.5 The concept of gender equality

Four approaches to conceptualising gender equality have been identified: human capital theory with a focus on parity and sameness for all; a human rights and power perspective, within which gender equality is viewed as transforming unjust structures; postcolonial critiques, which celebrate and recognise difference; and the view of development as social action for empowerment with gender intersecting with other inequalities (Aikman, Halai & Rubagiza, 2011). Most frameworks promoting gender equality are based on the human capital theory.

The concept of gender equality has many definitions. I however adopted one which seemed to encompass key elements in the other definitions. According NORAD gender equality is a situation where:

'There is no discrimination on grounds of a person's sex in the allocation of resources or benefits, or in the access to services. Equality exists when both men and women are attributed equal social value, equal rights and equal responsibilities, and have equal access to the means (resources, opportunities) to exercise them' (NORAD, 2005).

Gender equality is a concept that has been used to address gender imbalance among men, women, boys and girls in different development policies and programmes. Across regions and countries, evidence suggests that sustainable development strategies that do not promote gender equality and the full participation and empowerment of women and girls will not succeed (UN Women, 2012). However there have been some critical arguments against gender equality as a tool of analysis based on its definition, relevance and applicability. Antiessentialist feminists believe that gender equality concept 'essentialises' women, treating them as a homogenous group. The argument is that gender as a concept promotes the 'women versus men thinking', without looking at the women and their different individual interlocking oppressions. As a result, certain experiences and issues specific to different categories of identity of women are obscured or rendered invisible (AWID, 2004). This, according to AWID, results in problems that are specific and unique to particular women groups or disproportionately affect individual women not receiving appropriate or adequate attention. The argument mainly is centred on the fact that what works to promote the rights of some women may not be effective for other women. This means that women should not be treated as a single group based on the assumption that they share experiences. This prompted me to study women in two different settings, the urban and the rural, to see if geographical location is one of the categories that would emerge related to women's access to sustainable energy. When conducting research, I was also open to different categories of women identities. I came across a woman in a rural setting who was also challenged by the fact that she had a disability. Compared to other women, living with a disability coupled with the fact that she was a female household head, meant she had specific challenges she had to deal with when it came to her role as a provider, user and manager of energy in the home.

The review also revealed arguments levelled against gender as a tool of analysis and an operational framework based on its abstractness. It is criticised for not having a concrete, visible and countable 'body', as women do (FAO, 2000). The argument against its abstractness is also based on its relational nature, that gender does not refer to women or to men, but to the system of relations between them (FAO, 2000). This may be contributing to the invisibilisation of women in the energy sector, participating less in planning and implementation of policies and programmes. Studies have shown that women are invisible in the energy sector (Cecelski, 2000). Women's participation in public and political spaces has been identified as one of the key in achieving their empowerment. Reduced access to resources such as energy is also believed to hinder women's full participation in a green economy (UN Women, 2012).

In her article 'Women, Law and Human Rights', Fareda Banda also criticised gender as a tool of analysis because it is based on the liberal model of equality. It is argued that using gender as a tool of analysis is problematic as it focuses more on comparing the sexes, male and female. She explains that men are used as the norm for non-discrimination, arguing that women become the 'other' (Banda, 2005). This contributes to gendered beliefs that males are superior to females and more knowledgeable than females. These beliefs have been identified as contributing to the exclusion of women from sustainable energy development as it is considered a male domain. The result is that male perspectives inform, influence and dominate the sustainable energy discourse.

However, for this study the gender equality concept largely provided the understanding that women are not isolated beings, operating according to their own set of rules and desires, but function (as do men and children) in relation to norms and values, opportunities and constraints, around them.

2.2.1.6 The conceptualisation of gender equality in Malawi

There is no structured record on how gender equality has been conceptualised. However there is recognition of the need to promote gender equality. The Government of Malawi recognizes that human development can significantly take place if gender issues are mainstreamed into the development process (MDGS II, 2011-2016).

The Government of Malawi ensured that it took steps to domesticate the rights of women as stated in international provisions by incorporating these rights in the Constitution. Therefore, in conformity with women's rights principles, the Constitution of Malawi specifically promotes equality in Chapter IV section 20(1) and (2) and section 24(1)(a)(i) and (ii). Malawi also enacted the Gender Equality Bill in 2012 which seeks to promote gender equality and equal integration of men and women in all functions of society. It is aimed at strengthening the domestication and operationalization of CEDAW.

Although there are policy and legal frameworks that are creating a conducive environment for gender equality, lack of a structured and grounded conceptualisation of gender equality is contributing to their ineffectiveness (Kabwila-Kapasula, 2013). It can also be said that lack of clarity in the conceptualisation of gender in the country contributed to the development of policy and legal frameworks that are misguided and not dealing with real Malawi contextspecific issues. This is problematic when it comes to promoting women's access to sustainable energy as gender equality is currently the main tool of analysis in the country. It therefore means promoting women's access to sustainable energy takes a generic approach.

2.2.2 Unpacking sustainable energy

2.2.2.1 The concept of 'sustainability'

The word sustainable is believed to have come from foresters of the 18th and 19th Centuries in Europe (Mather and Fairbairn, 2000). Foresters were concerned with deforestation since wood was one of the driving forces in the European economy. In response they developed scientific, or sustainable, forestry. Trees were planted to replace the wood harvested every year. That is how the original idea of sustainable was hatched, meaning that as a resource is used, it is replaced by growing additional amounts of the resource. The meaning has evolved over time taking into consideration that it used to address different types of resources. The word that has come to be used more often is sustainability.

Sustainability has become the buzz word in the development arena. Globally there are an increasing number of organisations and companies adopting sustainability as part of their theory of change. Campaigns and advocacy work have been carried out to ensure that people in different spaces have sustainable life-styles, are using sustainable technology and using resources sustainably. The key words have been re-use, recycle and reduce.

Feminists have argued for the inclusion of the gender perceptive in the definition of sustainability arguing that:

'Without the inclusion of feminist concerns for diversity in general and gender equality in particular, most sustainable approaches are incomplete and may even threaten to intensify women's subordination' Encyclopaedia of Life Support Systems (EOLSS, not dated).

Underpinning the conceptualisation of sustainability is sustainable development. Sustainable Development as a concept was first generated by the United Nation's Brundtland Commission (1987). The Commission's report, appearing in 1987, started the process of making sustainable development an important issue on the world stage. The Commission identified a number of 'common challenges' facing the earth: Population and human resources, food security, species and ecosystems, energy, industrial development, and urbanization.

Sustainable development, as a concept, has two primary pillars: Economic development and the consumptive use of the world's natural resources in ways that are sustainable. We have to consume, in other words, with the realization that resources are finite, and part of our job as human beings is to preserve the human future on this planet into a limitless future. Sustainable energy falls under the consumptive use of the world's natural resources in ways that are sustainable.

2.2.2.2 The conceptualisation of sustainability in Malawi

Malawi recognises the essence of sustainability in its development policy frameworks such as the Malawi Growth and Development Strategy II. The Growth and Development Strategy is a second medium term national development strategy formulated to attain the country's long term development aspirations (MGDS II, 2011-2016). Recognising the philosophy around sustainability, one of the six broad thematic areas is on sustainable economic development. MGDS outlines the country's commitment is ensuring sustainability while addressing its challenges such as inadequate energy generation and supply, narrow export base, climate change, environmental degradation, and unemployment. Emerging economic activities such as mining are also contributing to Government's attention to sustainable practices. Strategies in the MGDS II include enforcing legislation on sustainable use and management of mineral resources.

I however did not come across any concrete conceptualisation of sustainability in Malawi. This is a gap that policy makers, researchers and development programme planners need to address. As a country we need to come up with what in the Malawi context is sustainable. If Malawi talks about sustainable development and sustainable energy, it should reflect in what this sustainability constitutes. And as a feminist I advocate for a definition that includes women's perspectives.

2.2.2.3 The concept of energy

Energy is considered a vital element of every daily life. Insufficient energy severely affects many communities. The absence of sufficient choice in accessing adequate, affordable, reliable, high quality, safe and environmentally energy to support economic and human development is considered energy poverty. Statistics show that a large portion of the African continent's population, especially in the rural areas live in conditions of acute 'energy poverty' (IEA, 2006).

Women are involved in life-giving and conserving activities. In most communities especially in developing countries, women spend longer hours in backbreaking activities such as fuel and water collection than men. In many cases they experience more energy poverty than men. While men and women benefit equally from energy inputs, the reasons why they need energy and the ways in which they use it differ considerably (UN Women, 2012).

In this era where the world is advancing the philosophies of sustainable energy, policy makers and development practitioners should not only aim at promoting women's access to energy, but access to sustainable sources of energy for their secure and sustainable livelihoods.

2.2.2.4 The conceptualisation of energy in Malawi

The country acknowledges that a well-developed and efficient energy system is vital for industrial, mining and tourism development. The Government has committed to increase generation, transmission and distribution of electricity and promote other energy sources with the aim of improving service delivery and increased output in the economy.

However there has been such a lack of conceptualisation in the energy sector that sometimes when the energy sector is mentioned, it actually refers to the electricity sector. Proof of this is found in certain official government literature on its energy sector in which the words energy and electricity are clearly used interchangeably.

Women have been excluded from the energy sector in Malawi. Their needs and activities are not clearly reflected in national energy related policy framework. The National Energy Policy (2003) gives minimal significance to domestic energy use, and generally not considered a priority. Although household energy use and women are specifically mentioned in policy documents, the policy statement lacks context and conditions and comes out as general standard statements. Women's energy needs are not explicitly recognised in the national policy frameworks.

2.2.2.5 The concept of sustainable energy

The current energy cycle based on fossil fuels and nuclear energy has been associated with environmental degradation and climate change. The use of traditional biomass has been associated with negative impacts on people, such as through poor health conditions, and on the planet through carbon emissions. There have been calls globally for change in the energy use, apply energy saving and energy efficient measures and utilise renewable energy. Access to safe and sustainable energy all over the world has been identified as one of the strategies and an essential element to achieving sustainable development.

Sustainable energy is:

'Energy that provides for the energy needs of today without compromising the energy needs of future generations' (Energy4me, 2014).

I also wanted to understand the difference between sustainable energy and renewable energy which has in some write-ups been used interchangeably. According to Imperial College, London, sustainable energy has a much broader sense as it can include renewable sources, such as wind and solar energy, as well as non-renewable sources such as nuclear power, which could also be used as an energy source for generations to come. Renewable energy includes all those sources that do not cause any harm to the environment and have a minimal impact on the surrounding environment. Sustainable is a much wider term and includes all type of energy sources (ICL, 2014).

Anecdotal and empirical evidence however show that women and girls are disproportionately burdened by a lack of access to sustainable energy sources. It therefore calls for an effort to enhance their access to sustainable energy sources such as solar, biogas, electricity, to realise significant social and economic benefits.

2.2.2.6 The conceptualisation of sustainable energy in Malawi

In Malawi the current use of biomass energy has been blamed for the country's environmental degradation especially deforestation. A recent study indicated that unsustainable fuel wood had an annual cost of US\$44 million on the country's economy representing 1.2% of the country's GDP (Yaron et al., 2010). Sustainable energy is one of the developing themes in the energy sector in Malawi. Little progress has been made in ensuring access to sustainable energy due to a number of reasons, ranging from lack of resources, lack of political will, lack of information on sustainable energy and lack of policy direction (Gamula et al., 2013). A number of programmes and projects on promoting access to sustainable energy have been implemented with varying degrees of success but the overall picture is still that women's access is negligible. Malawi is relatively well endowed with sustainable energy resources (i.e., biomass, perennial rivers for power generation, and adequate sunshine for photovoltaic and other solar applications), their full potential is far from being realized (GoM-MEOR, 2010). A number of structural, operational and institutional challenges must be met to unlock this potential (Kambewa and Chiwaula, 2010). As policy makers and development planners are working on the challenges, it should be used as an opportunity to mainstream gender and to ensure women's adequate access to such resources.

2.3 Policy and legal frameworks

Legal and policy frameworks at national, regional and international levels, can either be pathways or barriers to women's access to sustainable energy. From research design, field work and data analysis different policy and legal frameworks at national, regional and international level were analysed. At national level I looked at, inter alia, the Energy Policy, Forestry Policy, National Gender Policy, Environmental Policy, Environmental Management Act, Forestry Act, Energy Management Act, Energy Regulatory Act, Gender Equality Act, Malawi Growth and Development Strategy, Vision 2020, Malawi Constitution, Prevention of Domestic Violence Act. At regional level I looked at the African Charter, the Women's Protocol, SADC Gender Protocol. At international level the study analysed the UHDR, CEDAW, ICSER, ICCPR and the CRC.

Although energy does not feature in early human rights instruments, there is a growing body of relevant national and international legal doctrine. There is increased recognition of the right to environmental protection among treaty supervisory bodies. This is evident in a growing number of non-binding legal instruments that explicitly refer to the environment such as the General Comment No. 15 of the Committee on Economic, Social and Cultural Rights, set out in 2002 a human rights-based approach to the sufficiency, safety, and accessibility of water. It sets an important precedent for other environmental rights such as access to sustainable energy. Filmer-Wilson and Anderson observe that:

'Whilst substantive rights to the environment are not well developed in international law, procedural rights offer a direct link between human rights and energy and environment issues. They are widely recognised in a number of human rights instruments, and in the Rio Declaration on Environment and Development. Procedural rights include the rights to information, participation in decision-making, and remedies for discriminatory treatment. They have provided communities and NGOs with an important tool for ensuring sound environmental governance' (Filmer-Wilson & Anderson, 2005).

The Convention on the Elimination of All Forms of Discrimination Against Women often referred to as an international bill of rights for women, is the notable international instrument one international human rights treaty that gives specific attention to rural women. Malawi as a signatory agrees to ensure that all women can enjoy their human rights and fundamental freedoms. The Convention protects women from discrimination and all forms of political, social, cultural and economic discrimination. It defines discrimination against women and acts as a pace-setter for national action to end such discrimination.

Article 7(b), (c) of CEDAW obliges state parties like Malawi to ensure women have equal decision-making power at all levels. This provides for the inclusion of women in decision

making processes in sustainable energy development. Article 14(1), (2), (3) provides for women in rural areas to have increased access to productive resources and opportunities, guaranteeing them equal access to agricultural credit and loans and appropriate technology. It is however observed that while CEDAW recognizes that rural women have the right to adequate standards of living, housing and communications, gender, women rights activists and development planners in general seldom consider in discussions such as sustainable energy (UN Women Ghana, 2011).

The Malawi Government also recognised the need to promote gender equality and has taken steps to domesticate the rights of women as stated in international provisions such as the CEDAW. It has included women's rights in the supreme law of the land, the Constitution. The Constitution of Malawi specifically promotes equality in Chapter IV section 20(1) and (2) and section 24(1),(a), (i) and (ii).

Section 13(a) of the Constitution calls for the sustainable management of the environment and natural resources as well as the participation of all people in Malawi in the national development processes. However the Malawi Constitution does not include basic provisions that enshrine general social and economic rights as justiciable rights with mechanisms responsible for their implementation, and does not describe the procedures of redress in case of violation. The Constitutional Bill of Rights does not specifically provide for access to energy as a right. However the right to access energy can be established from other rights provided. Section 13 provides for a wider interpretation which accommodates and establishes an entry point for the right to access energy. Just as in the case of the right to water, which has not been expressly provided for as a right in the Constitution, some schools of thought argue that some provisions can be interpreted to include it based on it being a prerequisite for the enjoyment of other rights, i.e., the right to food, health and gender equality (Kanyongolo *et al.*, 2011). Section 30(1), (2), (3) of the Constitution provides for the right to access energy.

This resonates with what the majority of the literature reviewed has shown which is that to date there are no international treaties that specifically refer to access to energy services as a right. However it is obvious that the goals contained in most human rights instruments such as the Covenant on Economic Social and Cultural Rights cannot be achieved without access

to sustainable energy. The Professor of Law at University of Adelaide, Adrian J Bradbrook states:

'In effect the argument can be made that the right to access to modern energy services is already implicit in a range of existing human rights obligations' (Bradbrook, 2005).

Professor Bradbrook argues that the starting point should be to look at what Article 11 of the Covenant provides, that sets out a number of rights essential for the realisation of the right to an adequate standard of living, including access to 'adequate food, clothing and housing, and to the continuous improvement in living conditions.' Access to energy services, he observed, is fundamental to cooking, lighting, heating and cooling, and sewerage. He further states that Article 12 of the CESCR confers the right to the highest attainable standard of physical and mental health and the attainment of such a standard is impossible without access to sustainable energy services (Bradbroook, 2005).

Another school of thought, however, is that rights are not only understood as written in the constitutional and statuary law or as the normative framework provided in the Universal Declaration of Human Rights and other international treaties (Danielsen, 2012). It is believed that most communities have different levels of co-existing rights systems and social institutions that govern them. As such rights defined at one level may be denied because of social norms operating at another level (Danielsen, 2012).

But what should constitute legal right to access to energy? The basic right would ensure access on the basis of equality and non-discrimination to a sufficient, regular, reliable, efficient, safe, and affordable supply of (ideally clean and sustainable) energy. In this study, these have been packaged in four key variables namely availability, sustainability, affordability and accessibility.

2.4 Conclusion

There was a need to understand the key concepts of gender equality and sustainable energy and how they are conceptualised in Malawi. To understand the role of women in sustainable energy, other dimensions also had to be understood. One of the dimensions I looked at was whether the legal and policy frameworks at national, regional and international levels, are either acting as pathways or barriers to women's access to sustainable energy.

CHAPTER 3

3.0 THE RESEARCH PROCESS

3.1 My research process

'The women's law approach, a technique of uncovering the nature of women's problems in combination with open interviews, provides access to knowledge about women's values and life experiences.'

(Hellum 1990, Himonga 1990, Molokomme 1991 as quoted in Pursuing Grounded Theory (PGT) in Law, 1998).

3.1.1 Getting started

After formulating the research problem, assumptions and questions, I needed to develop a framework that was suitable and that could help me properly and adequately investigate women's access to sustainable energy in Malawi. As a scholar engaging in women's law research, I wanted to engage in a process that would help capture excluded women's narratives in the sustainable energy and gender discourse. I wanted a framework that would help me identify the nuances, while engaging empirical knowledge and data collected on women's own stories and perspectives, on law, local customs, values, beliefs, practices (Bentzon *et al.*, 1998). I considered these useful as they would help me understand the issues surrounding women's access to sustainable energy better.

3.1.2 Women, the centre of gravity

Based on my research assumptions and questions, which were all focusing on women, the research process started by enquiring into the women's own experiences and perspectives, their lived realities relating to access to sustainable energy. In other words, I sought to learn from the women themselves first, based on their narratives. I however was conscious of and open to the fact that women are not a homogenous group. Adopting the concept of intersectionality, at the research design stage I saw the need to establish what the actual issues of different groups of women are and how they may be affected by access to sustainable energy. This prompted me to study women in two different settings, the urban and the rural, to see if geographical location is one of the categories that would emerge related to women's role in sustainable energy development. While collecting data in the field I was also open to

different categories of women identities. Using the constant comparative method, data collected from Blantyre Urban and Blantyre Rural was constantly compared and contrasted. The data collected was checked for similarities and disparities in the two settings, urban versus rural. For instance while women in both Blantyre Rural and Urban recognised that their daily activities were packed with activities aimed at sustaining the home, many women in Blantyre Rural felt that it was their obligation as mothers, wives and home managers to sacrifice their time doing household activities such as firewood collection. Reflecting on women's diverse identities made me reflect that even flowers of the same species may have different shades of colour.

3.1.3 Following the leads

Bentzon *et al.* in 'Pursuing Grounded Theory' are of the view that effective methods have to be developed to carry out research into the position of women in society, using much more open methodology when dealing with the problems to be researched (Bentzon *et al.*, 1998). I used the grounded research process, otherwise known as the dung beetle method, which allowed the inclusion of other valuable emerging ideas, generated through constant analysis of the data collected. I continuously employed this process to enhance the in-depth understanding of the issues being researched. It helped me to pay attention to emerging issues and follow their threads to generate more understanding of the issues being research. This approach enhanced greater analysis of the issues as it provided more detailed data/information as thorough interrogation and investigation was done. The gender equality and sustainable energy issues required a more nuanced and in-depth understanding, especially to understand their linkage.

The grounded research process enabled me to readjust my research design, using theoretical sampling, where I had to include stakeholders such as the academia, Mzuzu University, not originally on my list to be consulted but provided useful insights. The approach also made me realise that all my assumptions had portrayed women as victims and not agents of change when I followed an emerging concept of barefoot engineers where I found women involved in solar installations. This helped me to open up to the idea that women are indeed agents of change and if their access to sustainable energy had to improved, they needed to be engaged as partners in planning and management of sustainable energy policies and initiatives.

The approach also helped me to see that my assumptions were focusing more on energy for cooking and lighting. My interaction with different stakeholders especially those who were not originally on my list helped me see the energy needs beyond cooking and lighting, to include processing of food and crops, and water pumping, traditional income-generating activities. I came across one organisation which was implementing solar powered irrigation.

3.1.4 Using gender lenses

Although the research focused solely on women's issues, it was important to understand the issues in a context, i.e., in the context of gender relations. One of the approaches I used was the sex and gender analysis approach. The sex and gender analysis is an approach used for analysing how both sex, rooted in biology, and gender are rooted in social roles shaped by the environment (Lober, 1996). The decision to use this approach was based on the perspective that women's experiences are formed and influenced by both biological and social cultural constructions (Bentzon *et al.*, 1998). This approach helped me to analyse the gendered behaviours, roles and identities in relation to women's access to sustainable energy. It helped to interrogate women's roles (reproductive and productive), access to, ownership and control of resources such as land, division of labour, the physical distinctions (i.e., pregnancy, child birth and child care) as it relates to women's access to sustainable energy. It helped me to understand the roles and responsibilities of women and men and the division of labour among them in the researched areas.

It also helped me understand the constraints arising from the gendered division of labour such as women's workload which arose from their limited or no access to sustainable energy. At policy and programme planning level, I wanted to find out if the sex and gender analysis was used to inform policy and programme development. Sex and analysis has been identified as one of the important approaches for policy makers and development programmers to enable them to understand gender dynamics in their specific area of focus. I also wanted to know if sex and gender analysis was used, how women's issues in relation to sustainable energy and climate change were addressed in different policy frameworks and development programmes.

3.1.5 Understanding the role and influence of other actors and structures

As highlighted in PGT, actors' perspective is particularly useful in obtaining a dynamic and processual understanding of issues (Bentzon *et al.*, 1998). The actor-structure approach enabled me to recognise and appreciate the existence of other players who have influence and

bearing on women's access to sustainable energy and their vulnerability to climate change impacts such development such as government offices (especially those in policy making positions), civil society organisations, women rights organisations, donor agencies, local leaders whose views and perspectives I sought to understand and learn from. This was important to identify which actors and structures were facilitating women's access to sustainable energy and helping to reduce their vulnerability to climate change; and which ones were actually barriers to women's access to sustainable energy and perpetuating their vulnerability to climate change impacts.

The Actors-Structure Approach also helped me in assessing women's engagement and participation in processes undertaken by the actors and the structures which were instrumental for increasing their access to sustainable energy and reducing their vulnerability to climate change impacts such as policy and programme development.

The approach also revealed that there are other social and family structures that limit women's choices in access to sustainable energy. Although there has been general observation that women's multiple roles act as an obstacle to development interventions, which often put additional pressure on women's time and that women's heavy workload reduces the time available for participation in key development processes, there are other actors and structures who actually promote women backbreaking activities. For instance some of the socialisation institutions such as the initiation ceremonies carried out in the Blantyre Rural areas teach girls how to carry out chores such as cooking, washing, maize pounding, fetching firewood, smearing the floor of a house (MHRC, 2005). In Blantyre Rural, one of the women in a focus group discussion said that she would rather her day was loaded with backbreaking activities as this would gain her the kind of praise (i.e., that she is a hardworking woman) from her people who could be her future in-laws and this would help her secure a husband. Another woman in Blantyre Rural also said that as a Christian she had the obligation to labour in providing for her family needs, quoting from the Bible, Proverbs 31 verse 10 to 31.

Generally the actors and structure approach also helped me to identify the dominant paradigm for the researched topic, that women are home managers and responsible for energy provision at the household level. According to Patricia Kameri-Mbote dominant paradigm is: 'A view of the world, a frame of reference, which presents the way we see the world and in gender terms, how we perceive, understand and interpret maleness and femalenesss from different paradigmatic points of view' (KameriMbote, 2002).

3.1.6 My experiential data

I tried as much as possible to maintain the highest degree of objectivity throughout the research process but somehow I must confess my personal understanding and experiences of the issues under study shaped my assumptions. My experiential data influenced some of the processes. As a girl, having been involved in energy provision in the home, supplementing my mothers' role as an energy manager in the home, I walked long distances, just to ensure that the family had firewood. My nineteen years of working in different communities in my work experience also made me witness the drudgery women were involved in providing energy for the family.

My subjectivity was the basis for the story that I am able to tell. It made me who I am as a person and as a researcher, equipped me with the perspectives and insights that shape all that I did as a researcher, from the selection of topic clear through to the areas of emphasis I made in my writing. Seen as virtuous, subjectivity is something to capitalize on rather than to exorcise (Glesne & Peshkin, 1992).

Anselm Strauss (1987) emphasized many of the same points in discussing what he called 'experiential data' — the researcher's technical knowledge, research background, and personal experiences. He argued that:

'These experiential data should not be ignored because of the usual canons governing research (which regard personal experience and data as likely to bias the research), for these canons lead to the squashing of valuable experiential data. We say, rather, "mine your experience, there is potential gold there"' (Strauss, 1987).

The philosopher Hilary Putnam (1987, 1990) argued that there cannot, even in principle, be such a thing as a God's-eye view, meaning a view that is the one true objective account. He states that any view is informed from some perspective and, therefore, influenced by the location (social and theoretical) and lens of the observer.

Based on my own experiences, growing up as a girl and interacting with other women in different communities through my work and social circles I have know about women struggling with multiple roles in the home. In addition there is anecdotal and empirical evidence that women and girls (who compensate the women's labour in the home) are burdened with huge workloads and that division of labour is gendered. The study left me with one question, 'Should we just promote policies and programmes that alleviate women's burden but leave men's power and lack of domestic responsibilities intact?' There is evidence that reducing women's workload in one area, if men's power is left intact, just transfers that work load to another area. For instance, women's workload may be reduced through the introduction of energy saving technologies but their labour may be transferred to agricultural production. One of the respondents from civil society organisations also said:

'As we promote women's access to sustainable energy, we should not just promote technologies that alleviate the women's workload and not deal with the gendered division of labour. This may continue to confine the women to the domestic sphere, engaging more in reproductive roles and less in productive roles' (Executive Director for CARD).

3.2 Organisation of the research process

3.2.1 Site selection

Several factors determined my choice of the studied areas. The first reason was the relevance to the study. Traditional Authority Kunthembwe Area in Blantyre Rural is a highly deforested area which I found ideal for the topic I had chosen on women's access to sustainable energy sources. I however wanted to make a comparison between women in rural and urban areas, to see if their energy needs are different and if their access to sustainable energy was differentiated by location, so I chose Ndirande Township in Blantyre Urban. Apart from its socio-economic profile, Ndirande Township was chosen because of its proximity to Kunthembwe, a hub of charcoal and firewood sales. Logistically the area was also conveniently located being close to where I live. The processes required continuous interaction with the communities and the choice of location to be studied helped me to manage my time effectively.

The fieldwork activities were started by establishing contacts with the Group Village Headman of the four targeted villages namely Kumbilina, Jumbe, Stande and Kamowa. This was done mainly to introduce the study and obtain permission to carry out research work in his villages. The Group Village Headman informed the people especially women about the study.

The research employed participatory and interactive process to engage government officials, CSO leaders, community development actors, local leaders and women.

3.2.2 Sampling

My research topic, assumptions and questions directed the selection of communities to be studied. They also determined my selection of institutions and key stakeholders to be engaged. I purposely selected Civil Society Organisation and women rights organisation leaders, key government officials in Ministries such as Gender and Energy and key donor agencies that were involved in sustainable energy development in Malawi.

Date	NAME	Sex	ORGANISATION
8/10/13	District Environmental Officer	М	Blantyre District Council
8/10/13	Director of Planning	М	Blantyre District Council
8/10/13	Gender Desk Officer	F	Blantyre District Council
12/10/13	Executive Director	М	CARD
16/10/13	Programmes Director	М	CEPA
16/10/13	Executive Director	F	WOLREC
17/10/13	Livelihoods Programme	F	BSHDC
	Manager		
17/10/13	Executive Director	F	WLSA Malawi
18/10/13	National Vice Chairperson	F	COWFA
19/10/13	Regional Food Security	F	Women's Forum
	Director		
29/10/13	Programme Analyst	F	UNDP
8/12/13	Dean of Students,	М	Mzuzu University
	Environmental Science Faculty		
19/12/13	National Leader	F	CCODE, Malawi Homeless
			People's Federation
14/1/14		М	Ministry of Energy
16/1/14	Principal Gender and	М	Ministry of Gender
	Development Officer		

Table 1: Showing details of key informants

The women's law approach also provided flexibility in terms of the inclusion of respondents who were not originally on my list. However the villages were chosen randomly.

DATE	PLACE	AGE	SEX
30/09/2013	Stande Village, T/A Kunthembwe, Blantyre Rural	46	F
30/09/2013	Stande Village, T/A Kunthembwe, Blantyre Rural	58	М
2/10/2013	Kumbilina Village T/A Kunthembwe, Blantyre Rural	46	F
4/10/2013	Kamowa Village, T/A Kunthembwe, Blantyre Rural	44	F
10/10/2013	Jumbe Village, T/A Kunthembwe, Blantyre Rural	49	F
10/10/2013	Jumbe Village, T/A Kunthembwe, Blantyre Rural	43	F
4/01/2014	Nikisi Village, T/A Mlumbe, Zomba	41	F
4/01/2014	Nikisi Village, T/A Mlumbe, Zomba	38	М
4/01/2014	Nikisi Village, T/A Mlumbe, Zomba	39	F
4/01/2014	Nikisi Village, T/A Mlumbe, Zomba	41	F

Table 2: Showing details of individual interviewees

3.2.3 Data collection

Three qualitative research data collection techniques were used namely semi-structured interviews, focus groups and observation.

3.2.3.1 Focus group discussion (FGD)

The focus group discussion technique was used based on its purpose of motivating discussion from group members on a topic. Participants in a focus group discussion were asked questions related to their everyday energy needs interactive group setting where participants were free to talk with other group members. A total number of 6 focus group discussions were conducted. The number of participants per group varied between 11 and 45 according to people's availability. Some of the focus groups became too big to handle and I had to ensure participation. A participatory appraisal tool called the Daily Activity Schedule was used to enhance active and meaningful participation. An example is one of the groups which had 45 women against the recommended six to eight participants. Many studies have shown that women do not effectively participate in the presence of men. But even in all women group, with appreciation that women are not homogenous group, active participation has to be cultivated especially in larger groups.

Apart from the daily calendar schedule, I also infused it with songs and dance as energisers to manage the larger groups whenever I noticed that the discussions were losing steam. I had to think about what the women love. Women in Malawi love singing and dancing and their songs sometimes reveal their perspectives about life, their everyday experiences, their joys, their challenges. Unfortunately they did not sing any song related to their role managing energy requirements in the home. The idea of using the daily activity schedule was first explained to the women. Using locally available tools, a stick and the ground, women themselves drew and logged in the time and activities from discussions and after reaching a consensus. The tool involved women identifying their daily patterns of activity based on a gendered division of labour on an hourly basis. Finally the women isolated activities which required energy. Although the tool was used to promote participation, the tool was also found useful in promoting ethical research. Instead of just extracting knowledge from the women, the tool helped the women present, share, analyse and enhance their knowledge of their own experiences. The daily activity schedule which also helped the women see their daily routine made them realise how much work they did to sustain the home as compared to their male counterparts.



Figure 2: Photograph of group of women working on the daily activity calendar in the sand on the ground

TIME	WOMEN	MEN
4:00 am to 5:00 a.m.	Wake up. Put bath water on the fire	Sleeping
6:00 to 7:00 am	Sweeping the house, prepares breakfast, bath children and dress them for school, ironing husbands clothes.	Bathing, eating breakfast
8:00 to 9:00 am	Wash plates, go to the market, wash clothes and bath	Go to work, business, playing bawo (board game), gone to drink beer and garden
10:00 to 11:00	Having breakfast, cooking relish for lunch, picking children from school	Go to work, business, playing bawo (board game), gone to drink beer and garden
12:00 to 1:00	Cooking Nsima and Eat	Eatlunch
2:00 p.m to 3:00 p.m.	Clean dishes and collect vegetables/relish for dinner	Resting

Figure 3: One of the daily schedules transferred on to paper (Adapted from International HIV/AIDS Alliance 2006).

In most villages women gathered under the shade of a tree and discussion started by explaining the purpose of the exercise, that this is an academic study contributing to bettering women's lives. I also explained how the information provided will be used to contribute to the development of gender sensitive policies and laws. I facilitated and guided the discussions but generally allowed women to talk and discuss the topic freely, only coming in to clarify points. A voice recorder was used with the consent of the participants. The discussions, which were conducted in the local language Chichewa, were transcribed and translated into English later. Each FGD lasted about three hours. It was not possible to stick to the planned one hour as women wanted to discuss more. One hundred and seventy-seven women (117, 114 in Blantyre Rural and 63 in Blantyre Urban) were engaged in the process (Refer to table 3). At the end of everything women were given time to ask me questions. The most common question was on whether I will go back to inform them on the findings and the way forward.

DATE	PLACE	NUMBER OF
		PARTICIPANTS
30/09/2013	Stande Village, T/A Kunthembwe, Blantyre Rural	32
2/10/2013	Kumbilina Village, T/A Kunthembwe, Blantyre Rural	11
4/10/2013	Kamowa Village, T/A Kunthembwe, Blantyre Rural	34
7/10/2013	George Area, Ndirande Township, Blantyre Urban	45
9/10/2013	Goliyo, Ndirande Township, Blantyre Urban	18
10/10/2013	Jumbe Village, T/A Kunthembwe, Blantyre Rural	37
	TOTAL	177

Table 3: Showing details of focus group discussions and participants

3.2.3.2 Individual interviews/Key informant interviews

Semi-structured interviews were conducted with key informants and women at household level using a check list. Four women rights organisations, four NGOs working on climate change and sustainable energy, one climate change network (CISONEC) were consulted. The study also interacted with three officials from Blantyre District Council Officials, one official from Ministry of Energy, one official from Ministry of Gender and one official from United Nations Development Programme (Refer to Table 1).

A field diary was used where daily research activities were recorded in note form and then transferred on to a computer in more detail. The field diary helped to keep in check the emerging issues and also keep the research process organised.

3.2.3.3 Data validation

The triangulation method that included interview, participatory exercise and sharing findings with different stakeholders has been applied to validate the data. A review of the literature also helped to triangulate.

3.2.3.4 Observation

I took time to observe the areas and the situations in the studied areas for two reasons. One it was a means of validation and secondly it was an opportunity to learn about other issues which the women may have not shared about.

3.2.4 Analysis

Since this study was qualitative I used qualitative data analysis methods. Data analysis started in the field when collecting data. The research questions, the conceptual and theoretical framework foundation of the study helped in analysing the data. The data was organised using the field diary and the narrative reports according to the two areas studied. The data collected was then reduced through summarisation and categorisation. The main categories were based on geographical location, Blantyre Urban and Rural. Trends and patterns were identified and linked, i.e., from women's daily activities. The voice recorder which was used to assist in note taking was also found useful to find more meaning in the women's voice, as generally people in Malawi sometimes use riddles to communicate and sometimes do not say things in a straightforward manner. A combination of constant comparative method and narrative analysis was used. Constant comparative method assigns codes that reflect conceptual relationships and narrative analysis involves looking at variations in stories, experiences, understanding, recalling and summarisation (Kawulich, 2004). The constant comparative analysis enabled me to reflect on the conceptual relationship between gender and sustainable energy but also compare between Blantyre Rural and Blantyre Urban. Narrative analysis enabled me to identify the feminist and other theories related to gender equality and sustainable energy nexus.

3.2.5 Study limitations

I had set out to study three concepts sustainable energy, gender equality and climate change. However upon realisation that these are complex concepts and requiring more time and understanding, I dropped the climate change concept and remained with two, sustainable energy and gender equality.

Translating sustainable energy issues such as availability, accessibility, affordability and sustainability into the local language was very difficult. In the local language they just sounded like one and the same. It was also difficult to get the right answers for some of the questions as the meaning had been lost in the framing of the questions.

The study was conducted during the rainy season. Some meetings specifically in Blantyre Rural had to be postponed and other cancelled as the roads became impassable. In Ndirande the political frenzy created by the upcoming tripartite elections made it difficult in some communities to organise meetings without being associated with political groupings.

3.3 Conclusion

The study needed a gender differentiated enquiry into the experiences and lived realities of women in order to understand their access to sustainable energy. Textured and nuanced perspectives needed to be captured and placed within the broader policy and programme context around gender equality and sustainable energy in Malawi. Selecting appropriate methods and processes was key to help achieve the research objectives. Since this was qualitative research, it mainly engaged qualitative methods of data collection. The methods help in the active engagement of the women and the integration of information from multiple sources and involvement of other stakeholders. The research was on understanding women, therefore women were specifically and deliberately targeted as respondents. However other structures and actors identified as relevant to the study topic were also consulted.

CHAPTER 4

4.0 STUDY OUTCOMES

4.1 Energy situation in Blantyre urban and rural

4.1.1 Energy source

Studies have shown that in the areas where most of the 'energy poor' live, inequalities in energy access are observed along multiple dimensions. One dimension is the urban versus rural divide. Although statistics show that only 26 per cent of total households in Africa are electrified, it shows that this is not uniformly spread (ICTSD, 2013). While about a larger percent (51%) in urban Africa, only 8 per cent of the rural population has access to electricity (ICTSD, 2013). In Malawi 33% of households in urban areas have access to electricity and only 2% in the rural areas (NSO-IHS3, 2011). In urban areas in Malawi there are more energy options than in rural areas. Total rural energy consumption at household level is much higher than the urban consumption (see Figure 2). Eighty percent of the Malawian population is said to be based in rural areas where biomass energy is the more important energy source for the rural households than it is for the urban households and most of it is used in its raw form (Kambewa and Chiwaula, 2009).

In Ndirande Township the women mentioned charcoal as the most common energy source for cooking. This agrees with findings from IHS3 which show that about 44% of the urban households use charcoal for cooking, 33% of the households use firewood, while 10% use electricity. Women from Kunthembwe area mentioned firewood as their main source of energy for cooking. Although the IHS3 shows that only 2% use electricity in rural areas, none of the respondents in Traditional Authority Kunthembwe had access to electricity. The IHS3 also shows that 33% households have electricity, only a few respondents in Ndirande mentioned it as a source of cooking energy. An example is the focus group discussion held in George area, Ndirandetownship, out of the 45 women, only five said they used electricity for cooking. The five also mentioned that it was used for cooking selected food staffs and the rest of cooking was supplemented with charcoal.

Women in Kunthembwe area mentioned paraffin, battery powered torches, firewood for lighting. According to the IHS3 data shows that about 54% of the households in the rural

areas use paraffin as a source of light energy, 31% use battery/dry cell torches and 8.9% use firewood. In Ndirande, women mentioned electricity, candles, paraffin, torches and firewood for lighting. The IHS3 shows that in urban areas 43% households use paraffin, 33% use electricity, 15% use candles, 9% use battery/dry cell torches and 0.7% use firewood.

I further analysed the findings based on four elements of sustainable energy namely availability, accessibility, affordability and sustainability.

4.1.2 Availability

'At all costs as women we have to cook. Cooking means fire. For us here fire means firewood. Where we get it does not matter but we must get it.' (A woman in a focus group discussion in Kumbilina Village, Group Village Headman Stande,

Traditional Authority Kunthembwe, Blantyre Rural).

Women in Blantryre rural said there were responsible for finding the means to meet their family and business energy needs. They use firewood, maize stalks, charcoal, pigeon peas stalks for cooking. The most common source is firewood and maize stalks. For lighting, they use candles, battery-powered torches and paraffin. The amount of cooking energy used is dependent on the size of the family. However firewood is scarce as the area has experienced high deforestation due to commercialised charcoal production. The only closest thickets with trees are the graveyards where women are not allowed to go. Although most men in the area are involved in the charcoal production business the women rarely use it for cooking. Their houses are only used as storage before it is transported to Blantyre city.

The women mostly buy firewood from the local market at Chikuli Trading Centre. The few who opt to go and collect firewood from the nearest private forest walk from sunrise and come back at sunset. The women have heard about women being exploited sexually at these private owned woodlots/forests but could not give any specific examples. One of the women respondents said that if she found herself in a situation where a man forced her to have sex in exchange for firewood, she would give it to him considering that it would be just a 'once off' thing. This agrees with findings in a study done by Women and Law in Southern Africa (WLSA)-Malawi Chapter, on factors that increase women's vulnerability to HIV infection in 2005. One of the issues the study found was what was termed 'firewood for sex', whereby

women would tell forest guards in protected Government and private owned forests that they do not have money, and that they will pay in kind.

Women in Blantyre Urban compared to their rural counterparts had a wider choice of energy sources which includes charcoal, firewood, electricity and gas though in very rare cases. It is important to note however that availability of energy choices in urban areas is not equal to access. Access to the diverse energy sources for women in Blantyre urban is dependent on the availability of other resources such as finances. Many of the women respondents use charcoal more than any other source of energy because it is easily available and appropriate in the context of nature of their housing. They buy it from men who bring it from different places including Kunthembwe, Blantyre rural. Many of the women interviewed in Blantyre urban said they could not use firewood because they do not have kitchens and they live in rented houses where landlords prohibit them from using firewood, for fear of spoiling their houses.

Other women use saw dust collected from local carpentry shops for free. Ndirande is one of the townships with a booming carpentry business. Saw dust is however becoming scarce as poultry businesses are growing. Poultry business owners use saw dust to line the floor of their chicken houses as chicken bedding.

Women in Blantyre Rural mentioned fuel wood scarcity is contributing to gender-based violence in the area. Women who opt to collect firewood take longer hours. This they said creates suspicion among some men, who accuse the women of being engaged in extra marital affairs. They also said that due to inadequate sources of energy, sometimes their food does not cook properly and this attract scornful remarks, sometimes even beatings from some husbands.

4.1.3 Accessibility

Although it is on record that Malawi is endowed with renewable energy sources such as solar, wind, geothermal, women in both Blantyre rural and urban are still confined to biomass as main energy source (GoM-MEOR, 2010). In Blantyre rural all women interviewed use the traditional three stone cooking places (see Figure 3).



Figure 4: Photograph of a woman cooking using the traditional three stone method in Kumbilina Village, Blantyre Rural.

Studies done in Malawi and in other countries show that although the traditional three stone cooking methods have benefits like space heating, protection from insects, domestic lighting, costless, and act as a social focal point where family members gather together, it has negative impacts. The three stone cooking method is said to affect people's health especially women and children. Biomass fuels are believed to release large amounts of air pollutants when burned on traditional three rock fires. These pollutants become concentrated especially in poorly ventilated houses and prolonged exposure to biomass smoke can cause significant human health problems (Mohammed, Heijndermans and Mboribuni, 2013). According to World Health Organisation up to 1.6 million women and children die every year from diseases associated with breathing polluted air in their homes (WHO, 2006). Traditional wood fires have also been criticised for being inefficient in fuel consumption. As much as they are very efficient at turning wood into energy they are said to be inefficient at transferring the released energy on to the cooking utensil. It is observed that most of the released energy is wasted heating the surrounding air. The inefficient transfer of energy requires the user to use more wood fuel, increasing the amount of wood harvested from the surrounding environment (Muhammed, Heijndermans and Mboribuni, 2013).

Cleaner and more energy efficient technologies are being promoted in Malawi. From the other stakeholders consulted, I came across technologies such as solar, biogas and energy saving stoves which are being promoted in different parts of the country. However women interviewed in both Blantyre Urban and Rural were only aware of the energy saving stoves.

In Blantyre rural, the women said they had never seen the stoves but had heard about them on the radio. In Blantyre Urban the women said Non-Governmental Organisations such as Save The Children were promoting energy saving stoves in the area. However there was low adoption of the technology. It was however observed that adoption rate was low. In a focus group of 37 women, for instance, only three women were using the energy saving stove. Women mentioned lack of kitchens as one of the reasons for not using the energy saving stoves. The technology uses firewood and in the area it is being promoted charcoal is the main source of cooking energy. The other reason is that the stoves being promoted were fixed to the ground unlike other energy saving stoves which are movable.



Figure 5: Photograph of an energy saving stove being promoted by one of the organisations working in Ndirande, Blantyre Urban



Figure 6: ChitetezoMbaula, an example of a movable energy saving stove

The women in Blantyre Rural were noted to suffer more discrimination as no programme was working to promote sustainable energy.

4.1.4 Affordability

Access to affordable energy services is essential to achieve economic growth and poverty reduction. Energy is a critical input in the daily lives of women, who need enormous volumes of energy to carry out their daily chores including cooking and domestic heating. Women in Malawi as household managers have inadequate, often inconsistent cash incomes and multiple demands on them and women's choices are constrained by what they can afford (Ngwira, 2012). As household managers, scarcity in cooking and lighting energy constrains or impacts upon the women's livelihood options. Women have to make difficult choices to meet the daily needs of their families.

In Blantyre urban the women who said they had access to electricity in their houses said they do not use it for cooking as it is expensive. Statistics show that only 3% of households in Malawi (12.6% in urban areas and 0.6% in the rural areas) use electricity as their main cooking fuel (NSO-IHS3, 2011). Having access to electricity can mean that women have access to sustainable energy but it does not necessarily mean that it alleviates their energy poverty unless the tariffs are affordable.

In Blantyre Rural women said that on average they use MK100 (US\$ 0.22¹) per day on firewood for a standard meal of *nsima* and vegetables, twice a day. Per month it estimated at MK3,100 (US\$ 7). One of the participants in a focus group discussion said that her monthly income is MK7000 (US\$16). By deduction, she uses 44% of her income on firewood. This is more than what other studies have found, that up to 20% of poor people's income is spent on biomass energy (Celciski, 2005). Women in both Blantyre Rural and Urban said they work extra hard in their businesses, trying to make ends meet. In Blantyre Rural, one of the respondents said that:

'We rise up in early hours of the day when the village is asleep, and disappear into the city to sell our merchandise. We get back when it's dark, when the village is also about to sleep' (A focus group participant in Stande Village, T/A Kunthembwe, Blantyre Rural).

There is an observation made that income-generating activities often impose further burdens on women's time and physical energy (Annecke,1999). These burdens go unrecognised and unpaid. Out-migration by men, resulting in a large number of female-headed households in rural areas, is also greatly contributing to women assuming more responsibility to provide for the family. General recommendation 16 recognises roles which rural women play in the economic survival of their families. It explicitly mentions rural women in its title, focuses on women's unpaid work in rural and urban family enterprises.

Blantyre Rural is on record as one of the areas that benefited from the rural electrification programme. However none of the 114 women who participated in this study had electricity in their homes. Electricity has just gone up to Chikuli Trading Centre. Although the Government highlights the success of the rural electrification programme based on the increased number of trading centres connected, from 45 in 2005 to 178 in 2010 (GoM-MCA, 2011), criticisms are levelled against the Programme in that it provides electricity to trading centres where it only connects businesses such as maize mills, grocery shops, battery charging shops but not households which need it for essential household activities such as cooking, lighting, irrigation. There is a lot of investment in rural electrification but it is not translating into gains for the people especially those social groups such as women. The full cost of grid extension and high connection fees are cited as some of the reasons household clients are failing to access electricity in rural families specifically women who are energy

¹

US\$1 is equivalent to MK450 as at December 2013.

providers in the home. Malawi has a Rural Electrification Act (2003) which is concerned with installation and maintenance of electricity generation (including generation from renewable sources) and distribution facilities in rural areas. A key objective of Government of Malawi is to:

'improve electricity for people in peri-urban and rural areas as part of its effort to reduce poverty, transform rural economies and improve productivity' (GoM-MNEP, 2003).

The study also established that some policy and legal frameworks are also contributing to increasing energy pricing. Lack of clarity on policy directives in charcoal production and management is one example. Charcoal trade has been the subject of debate in Malawi for years. On one hand it is said that charcoal trade is illegal and on the other hand it is said that it is not illegal but that one needs licensing to produce it. Malawi has frameworks for forest management such the Forest Act (1997), the National Forest Policy (1996), and Standards and Guidelines for Participatory Forestry Management which are intended to promote sustainable forest management. However the Ministry of Forest has taken measures to 'ban' the trade and confiscates charcoal from 'unlicensed producers and traders'. This creates a scarcity and raises the price of charcoal which the women in Blantyre Urban said they have to bear.

'When the forestry officials take away charcoal from traders, we are the ones who suffer most as the prices just shoot. It means we have to spend more on charcoal than usual' (One of the Focus Group participants in George area in Ndirande)

This agrees with findings from a study done by Kambewa *et al.* in 2007 which showed that urban poor, who spend a larger proportion of their household income on charcoal and who have no other affordable energy options, particularly feel fluctuations in the price of charcoal. The study was on charcoal production, analysing its production value chain, which revealed who the actors at different stages were and what costs they incur at each transaction node (Kambewa *et al.*, 2007). Kambewa *et al.* argue that solutions to the charcoal production need to target all agents along the production chain not just the producers but also include energy consumers. These inconsistences in implementing the policy and legal frameworks have also contributed to high deforestation in Traditional Authority Kunthembwe's area in Blantyre Rural and women, who are dependent on the forest for their livelihoods have been affected. It

can be deduced that Government failed its obligation to protect women's rights to access resources from charcoal producers.

As energy managers in the home, women are vested with the responsibility of deciding on what energy sources to use. Among other things their decisions are highly dependent on the availability of resources such money, housing and knowledge of the existing sources of energy. Criticisms have been levelled against sustainable energy technologies to the effect that they are expensive not easily accessible for low income populations. For instance, one biogas digester which according to Mzuzu University was costing between MK400,000 (US\$889) and MK500,000 (US\$1,111) in 2008 may not be easily accessible for an average Malawian woman. The project bore most of the costs. In Malawi the average annual consumption per capita in Malawi is MK54,568 (US\$121) whilst the median is lower at MK32,633 (US\$ 76) implying that on average, a Malawian consumes about MK150 per day (NSO-IHS3, 2011). While there are a number of determining factors, cost has been mentioned as one of the limiting factors on women's choices on sustainable energy technologies.

4.1.5 Sustainability

Largely the sources of energy being utilised in both Blantyre Rural and Urban are unsustainable, i.e., charcoal produced using unsustainable methods and firewood. The resultant effect has been the deforestation in Blantyre Rural and other places where these are sourced.

However there is evidence that women in Blantyre Rural are exploring possibilities to replace the lost forests. The study established that more women than men were participating in reforestations and afforestation initiatives as they easily identify themselves as energy managers in the home. This is in agreement with the argument made by women groups at the 1992 UN Earth Conference on Environment and Development held in Rio de Janeiro that since women bear the brunt of environmental degradation, they are most likely to seek solutions to it. The study established that women in Blantyre Rural (see figure 6) were more involved in tree planting. They however expressed concern that the value of cutting down a tree and planting is not the same, as one has to wait for many years to use the planted tree, one may even die before reaping the benefits. However they still engaged in tree planting in the hope that the tree will help the girls, who are the future mothers and wives, and future energy managers. Analysing it with a feminist eye, one cannot help but note the imbalance in responsibility, where the forests were largely destroyed by men through charcoal productions and it is women who are taking the responsibility of correcting it.

To conclude, it has been observed that women in Blantyre Rural and Urban are experiencing energy poverty. Energy poverty has been identified as a gender biased poverty, with poor women bearing much of the burden of limited access to electricity and other sources of sustainable energy.



Figure 7: Photograph of women holding polythene tubes and working in a communal tree nursery at Jumbe Village, Blantyre Rural

Energy poverty has been defined as:

'the absence of sufficient choice in accessing adequate, affordable, reliable, high quality, safe and environmentally benign sources to support economic and human development' (Reddy, 2000).

The women in the two settings rely predominantly on traditional biomass, such as wood, charcoal, maize stalks, saw dust for cooking and indoor heating. The study established that largely women's lack of or limited access to sustainable energy in the areas is a result of exclusion. Article 14(2)(f) of the CEDAW is concerned with women's participation and seeks to address factors contributing to women's exclusion. Factors contributing to women's exclusion from sustainable energy development include, inter alia, unconducive policy and

legal environment characterised by gender blind legal and policy frameworks; lack of recognition of women's knowledge and capacities; structures that should facilitate women's inclusion are weak; socio-cultural values, beliefs and practices.

4.2 A closer look at the factors contributing to women's exclusion

4.2.1 The unconducive legal and policy environment

Although feminist scholars regard the law to a large extent as contributing to the maintenance of traditional male hegemony in society (Dahl, 1987), legal and policy frameworks can create a foundation for the enjoyment of women's rights, especially their right to access resources such as sustainable energy. It is however important to underscore the fact that these policy and legal frameworks need to be gender sensitive for them to effectively promote and protect women's rights. The study established that gender blind policies and laws were contributing to women's exclusion from sustainable energy development resulting in their lack of or limited access to sustainable energy. Feminist legal theorists have found such laws and policies problematic and they seek to unmask and bring into the clear light of day in order to bring about change (Barnett, 1998). Gender-blindness is the ignoring of the socially determined gender roles, responsibilities, and capabilities of men and women. Gender-blind policies, though they may appear to be unbiased, are often, in fact, based on information derived from men's activities and/or the same needs and interests as men (WHO, 2010). Although I looked at various policies and laws, two policies which were found key to women's access to sustainable energy were critically analysed, namely, the Draft National Gender Policy 2011 and the National Energy Policy 2003.

4.2.1.1 Gaps in the draft National Gender Policy

Malawi's Draft National Gender Policy (2011) was one of the legal and policy instruments analysed. Developed by the Ministry of Gender which is also designated as the National Gender Machinery, the policy provides a framework with guidelines for the facilitation of meaningful achievement of gender equality and women empowerment. Its main goal is:

'To mainstream gender in the national development processes in order to enhance participation of women and men, girls and boys for the attainment of sustainable and equitable development' (GoM, National Gender Policy, 2011). The draft National Gender Policy drew lessons from the first National Gender Policy which ran from 2000 to 2005. The lessons include the need to institutionalise gender equality, development of gender mainstreaming guidelines and tools both generic and sector specific, capacity building of stakeholders, strengthening of networking and coordination between and among stakeholders; implementation of comprehensive and well-coordinated gender management systems, among other things. The policy since its revision has not been adopted. However just like many policies in Malawi it has already started providing policy direction on gender programming work in Malawi.

A definition of gender equality is missing from the Draft National Gender Policy (2011). The definition would be helpful in outlining what constitutes gender equality in Malawian terms and context, to help in conceptualisation of gender in Malawi. One of the arguments levelled against slow progress in gender programming work in Malawi is that there is a lack of grounding of the concept of gender equality in the country (Kabwila-Kapasula, 2012). In the absence of a well contextualised, domesticated translation different people have translated gender equality to mean different things. This has contributed to gender work that has lacked foundational, localised and coordinated efforts as gender actors do not share grounded theoretical capacity and link.

The policy has strategies which are meant to facilitate its operationalisation within the sectors and proposes implementation mechanisms for different sectors through policy priority areas. There is no specific reference in the Draft National Gender Policy on the energy sector despite energy being highlighted as one of the key development sectors in many national development policy frameworks. Many development policy documents, including the Malawi Growth and Development Strategy II acknowledge that much of women's time is being spent on collecting firewood (MDGS 11, 2011-2016). However the Draft National Gender Policy (2011) policy does not include anything on energy in its eight policy priority areas. Since the policy has not been adopted, it could be an opportunity for the policy to comprehensively analyse women's contribution to sustainable energy development. The gap could also be evidence that the Ministry of Energy did not provide input in the development of the policy.

The policy is also linked to other policies such as Agriculture Policies, Health Policies, Education Policies, National HIV and AIDS Policy, Industry and Trade Policies, Infrastructure Development Policies, Information Technology and Communication Policies, National Youth Policy and Environmental and Climate Change Policies reproductive health, education, national youth policy, HIV and AIDS policy and environmental policies and strategies. This creates the assumption that there was collaboration with the respective departments during policy formulation. The energy policy is not mentioned and the section on gender related environmental issues focuses on climate change and natural resource management. It does not bring out any issues of gender in relation to women's access to sustainable energy.

On implementation arrangements, the policy outlines plans to promote gender equality and equity in the national development system, the existing government and other stakeholder's machinery at all levels shall be harnessed for the implementation and co-ordination of the Draft National Gender Policy (GoM-NGP, 2011). It is said that the Institutional Framework for implementation of the Draft National Gender Policy will have structures and institutions within the public sector, NGO and private sector, and the civil society including faith and community based organizations in close collaboration and partnership with various interested donors and development partners (GoM-NGP, 2011). It is noted that not much has been put in place on the Gender desk in the Ministry of Energy. The coverage of energy issues in the gender policy is an indicator that there is a need to strengthen collaboration between the Ministry of Gender and that responsible for energy.

To conclude it can therefore be said that the Draft National Gender Policy which provides framework for mainstreaming gender in all development sectors has fallen short of providing any policy direction in the energy sector.

Access to sustainable and affordable energy is instrumental in achieving economic growth and poverty alleviation. To contribute to the realisation the global goal of poverty alleviation, Malawi should include the distinct energy concerns of women in the national gender policy and other gender programmes.

4.2.1.2 Gaps in the National Energy Policy

I also analysed the National Energy Policy (GoM-NEP, 2003). The Policy has six objectives:improving efficiency and effectiveness of the commercial energy supply industries; improving the security and reliability of energy supply systems; increasing access to affordable and modern energy services; stimulating economic development and rural transformation for poverty reduction; improving energy sector governance; and mitigating environmental, safety, and health impacts of energy production and utilisation (GoM-NEP, 2013).

The Ministry of Energy holds the functional mandate to take the lead in the formulation of energy policy. While formulating the policy, the Ministry is expected to consult all the key stakeholders who would be affected ether positively or negatively by the policies by effectively engaging them and coordinating their inputs into the process. There is no evidence to show that women who are affected by the policy in their role as energy providers, users and managers at the household level were consulted. However the National Energy Policy recognises the need for participatory energy development and states:

'Energy planning must start from an understanding of the needs of the end users and then must identify the supply chains that best meet the demand under a given set of circumstances' (MNEP, 2003).

The household sector is the dominant energy user, accounting for about 84% of total consumption (GoM-NEP, 2003) (see figure 7). At the household level women are majority end users and are not included in most of the energy planning processes. The policy formulation process indicated that there had been wide consultation and participation of many stakeholders. A series of consultative workshops were mentioned but there was no mention of consultations with women at any time or place to provide their input in the policy development process.

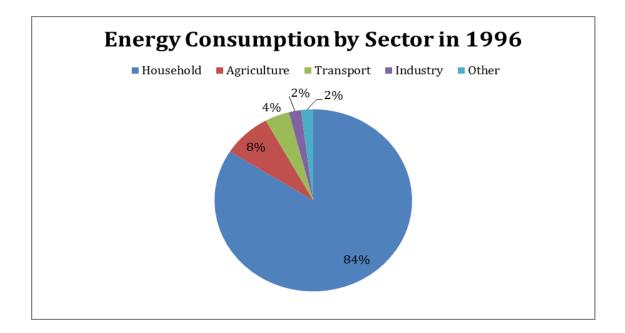


Figure 8: Pie chart representing energy consumption by sector (Source: Adapted from The National Energy Policy, 2003)

The National Energy Policy has three long term goals which emphasise economic returns but not social returns. Poor women are unlikely to benefit from the large-scale commercial energy expansion programmes, especially if the expansion programmes do not support connections to households.

The policy's emphasis is on improving energy in Malawi for increased production to boost economic growth. Most literature reviewed on gender equality and sustainable energy advocates stepping up women's access to energy for increased productivity, to engage in economic growth. Shiva and Mies (1993) on the other hand challenge this, arguing:

'to catch-up with men in their society, as many women still see as the main goal of the feminist movement, particularly those who promote a policy of equalisation, implies a demand for a greater or equal share of what, in the existing paradigm, men take from nature' (Shiva and Mies, 1993).

They underscore the fact that technologies that have been seen as emancipating women from drudgery on one hand have in the actual sense greatly contributed to pollution and destruction. This provides for reflection as to whether as women rights activists we just want access to energy or whether we want to access a form energy that would help to reduce destruction and pollution.

Although the Malawi Energy policy acknowledges the fact that planning must start from an understanding of the needs of the end users and must identify the supply chains that best meet the demand under a given set of circumstances (GoM, NEP, 2003), there is no evidence that key processes which would facilitate the understanding of women as end users such as gender analysis have not been adopted by policy makers and development planners in the energy sector. Most policy development statements have been based on general energy and gender statements.

4.2.2 Lack of recognition of women's knowledge and capacities

There is a stereotype that perpetuates the belief that sustainable energy or energy in general is scientific and technical, therefore a male domain. Women are not thought of technologists (Cecelski, 2000). Vandana Shiva, an ecofeminist, argues that modern science is projected as a universal, value free system of knowledge which by the logic of its method claims to arrive at objective conclusions about life, the universe and almost everything. She labels it a reductionist or mechanical paradigm which perpetuates the domination between knowledge (the specialist) and ignorance (the non-specialist). She argues that this barrier operates effectively to exclude from the scientific domain consideration of certain vital questions relating to the subject matter of science or certain forms of non-specialist knowledge. She further argues that there seems to be a deception inherent in divided and fragmented knowledge, which treats non-specialist knowledge as ignorance (Shiva & Mies, 1993).

The study established that women do experience a number of constraints in their involvement with technology and generally their role in sustainable energy technology development has been largely overlooked largely because their knowledge and capacity is underrated. Lack of recognition of women's knowledge and capacity has kept women outside the sustainable energy development arenas. Almost all the projects on sustainable energy I interacted with and many other development programmes engage women as victims and not as agents of change. An example is the project being implemented by Mzuzu University promoting biogas technology, women are portrayed as beneficiaries and not partners in the project. To begin with the project's main objectives have scientific and technical connotations in that they are aimed at reducing methane gas produced by dairy farmers in the targeted area and reducing deforestation. Women energy issues are only reflected as project outcomes and not part of the project objectives. The project did not carry out any gender analysis as part its baseline survey therefore did not understand the gender dynamics related to biogas technology being promoted.

Failure to recognise women's capacity and knowledge in sustainable energy development results in women's low participation in sustainable energy planning and management. For instance none of the 177 women in Blantyre rural and urban consulted in this study had been involved in any energy planning process and do not know any woman in their circle who had participated in developing any sustainable energy related policies and programmes. Women as energy managers in the home have demonstrated the potential of being effective partners in sustainable energy development. They understand the challenges in energy management at household and community level and are keen to engage in the processes aimed at improving their energy sources to more sustainable, affordable choices. They understand their own context better. Projects implementing energy initiatives have failed because they perceive women as passive adopters of technologies (Elizabeth Celciski). If engaged as managers they can inform design and the development of sustainable energy technologies. If women are engaged they can inform design and the development of sustainable energy technologies based on context specific needs.

In Blantyre Rural, for instance, apart from energy for cooking, women also mentioned their other energy needs for social and communal events such as initiation ceremonies, wedding and funerals. One woman asked if it was possible to have one big energy-saving stove to cater for such social function, as the aforementioned social activities consume more firewood. This was a very important perspective as most of the energy stove initiatives being promoted are targeting the household, institutions and not providing for such communal activities which are consuming large amounts of fuel wood. Article 14(2) of the CEDAW emphasises women's participation and recognises that women's exclusion from voicing their opinions in development planning has often resulted in planners' failure to take their needs into account. In Malawi efforts have been to enhance women's participation through such initiatives as the 50-50 campaign which aims at promoting women's equal participation in decision making.

However the myth that women are not technologists was debunked by the discovery I made of the bare foot engineers, women who are currently involved in solar installations in different communities in Malawi.

4.2.2.1 Harnessing women's potential in sustainable energy development

Case Story

The Bare foot engineer concept is being promoted by a local non-government organisation called Centre for Community Organisation (CCODE). Barefoot engineers are women who have dropped out of or have never been to school and are trained at the Barefoot College in India on solar installation. I wanted to learn more about the barefoot college and why the women were called barefoot engineers so I searched on the internet and found that Barefoot College advances the Mahatma Gandhi philosophies of service and thoughts on sustainability. The following is an excerpt from the Barefoot College Profile.

'The college holds the belief that the knowledge, skills and wisdom found in villages should be used for its development before getting skills from outside.

'The college believes that sophisticated technology should be used in rural areas, but it should be in the hands and in control of the poor communities so that they are not dependent or exploited.

'The Barefoot College has demystified technologies and decentralised their uses by transferring the access, control, management and ownership of sophisticated technologies to rural men and women, who can barely read and write. The College believes that even uneducated poor have the right to use technologies to improve their life and skills.

'The Barefoot College believes that 'literacy' is what one acquires in school, but 'education' is what one gains from family, traditions, culture, environment and personal experiences. Both are important for individual growth. At the College, everyone is considered an education resource, the teacher as well as the student and the literate as well as illiterate. Therefore, the Barefoot College is a radical departure from the traditional concept of a 'college'.

'Women who are single mothers, middle-aged, divorced, physically challenged or illiterate are prioritised for training over others because they need the employment opportunity and income the most. Barefoot College.'

So far CCODE has trained fourteen barefoot engineers. Mary Maduka is one of the barefoot engineers. She is from Nikisi Village, Traditional Authority Mlumbe in Zomba District, 63 kilometres away from Blantyre.

She was chosen and sent to train in India on solar installation. A primary school drop-out, she is married with five daughters. She is among the first eight pioneering women barefoot

engineers sent to India to train on solar installations. She was chosen as a member of a women's group called Talandira, which has been working on improving women's access to sustainable energy with support from Malawi Homeless People's Federation in partnership with CCODE.

Since she came back from India she embarked on a project to connect 100 houses to solar for lighting from the starter pack she was given by Barefoot College. She has so far managed to connect 81 houses in her village, 9 male and 73 women beneficiaries. She said the project mostly targeted women as they were the ones identified responsible for buying paraffin. Since the area follows matrilineal system, there were also fears that men may take the solar accessories elsewhere in case of divorce or the woman's death or sell the accessories.

Asked about the gains, she said the solar project has enhanced education in the area. There has been increased number of children especially girls have been selected to go to secondary school. It has also created an opportunity for women to engage in business activities such as poultry and battery charging.

Mary said that there was an agreement that each beneficiary household should contribute MK200 to pay the solar engineer and maintenance for the solar gadgets. But only a few are contributing. She however gets more money from private installations, i.e., people who buy solar accessories on their own. She charges between MK10,000-MK15,000 (US\$22-US\$33) for installing a house with 2 to 3 light bulbs.

Mary said that she has also trained three other women and one man in her community who now install solar lights.

At an individual level Mary said that her life has changed. She is able to feed her family, her health has improved. She also learnt a lot through the exposure she got from India and other districts where she goes to help orient other women on solar installation.

She said that women, especially those in rural areas must engage in the sustainable energy initiatives such as solar technologies. It works even on grass thatched houses. She urged women to move with times. She also appealed to organisations to help increase women's access to sustainable energy sources such as solar.



Figure 9: Photographs of Mary caught in action climbing a ladder to a roof (left) where she installs a solar panel (right)

4.2.3 The lack of or limited access to and control over resources key in sustainable energy development

'Access to resources is highlighted as a key theme in women's rights discourse and regarded as central in exploration of the status of women in society.' (Kameri-Mbote, Hellum and Nyamweya, 2011)

In Malawi patriarchal values, other cultural, traditional beliefs and practices have for a long time perpetuated discrimination against women and girls. Evidently, women and girls do not have opportunities equal to those of men and boys in the social, political and economic arena. Power relations are skewed in favour of men and boys and women are denied participation in decision-making on issues affecting their lives. This has resulted in disparities and inequalities in accessing services and resources (Ngwira, 2012).

The study established that women's lack of or limited access to resources was limiting their engagement in sustainable energy development, resulting in their use of unsustainable sources of energy such as firewood and charcoal. Resources such land, household assets like cattle and financial resources, key for accessing some of the studied sustainable energy

technologies, were not easily accessible to the women. For instance the biogas technology initiatives being promoted by Mzuzu University require resources such as cows, land, cement, pipes and sand. Land is mainly required for constructing the biogas digesters, kraals and for grazing the cows. The Project therefore targeted households that had cattle and land. Resources such cement and other construction materials were provided by the project.

Patrilineal system of organisation is practiced in the project area. There is lack of entitlement to land ownership for women in patrilineal societies; as under patrilineal customary laws women cannot own land and assets like cattle (ILC, 2011). In Malawi generally women lack access to land. Devereux (1997) reports that only 2.7% women in Malawi own land. The IHS3 also shows that fourteen (14) percent of the households in Malawi own a livestock kraal. A higher proportion of households (15 percent) in rural area own a livestock kraal than urban households (5 percent). By sex of household heads, 15 percent of male headed households own a livestock kraal whereas 10 percent of the female households own a livestock kraal. Of the three regions, central region (15 percent) has highest proportion of households that own livestock kraal than northern (13 percent) and southern (10%). Although many households were eligible as beneficiaries for the project, most men, owners of land and cattle, were not willing to engage in the project.

Promoting biogas technology therefore, would be problematic in the studied areas of Blantyre Rural and Urban. Women in Blantyre Rural may have access to land but almost all of them who participated in the study do not own cattle. In Blantyre Urban women are challenged by both lack of access to land and do not have cattle, especially in Ndirande Township which is an informal settlement. This then calls for policy makers and development planners to take these factors into consideration.

It is evident that many barriers exist when it comes to women's access, utilisation and control over resources. Some of the barriers to women's access to resources include gaps in the legislation (especially implementation), but also this is augmented by the issue of access to justice, illiteracy and patriarchal systems and attitudes that do not favour women's empowerment (Kabwila Kapasula, 2012).

4.2.4 Weak structures and institutions

The study also looked at structures which are institutions dealing with the promotion of the status of women. The functions of these structures and institutions inter alia are providing support for effective participation of women in development, promoting women in decision-making and the economy, ensuring Government support; working towards the eradication of harmful cultural practices, values and beliefs; engaging in policy and law reform; addressing issues of gender based violence and facilitating research on the status of women. Specifically the study narrowed down to women rights organisations and the national gender machinery.

4.2.4.1 Women's rights organisations

Although women constitute 52% of the population of Malawi they continue to be marginalized in many social and economic circles and contributing effectively to the country's development (UNDP, 2010). Malawi as a country has made progress in linking gender with other national development policies such as Malawi Growth and Development Strategy (MGDS). The country continues to promote gender equality to ensure more efficient, equitable, sustainable development. However despite the gains made, women continue to score low in measures of human development when compared with men. Women continue to have a lower social value than men, and continue benefiting from development less than men. Gender relationships and the way that masculinity is defined are at the heart of many development challenges (UNDP, 2010).

The Malawi government is the main duty bearer responsible for ensuring that women's rights are promoted and protected. However other stakeholders such as women rights organisations have a critical role in ensuring secure and sustainable livelihoods for women. According to Woman Kind Worldwide women's rights organisations are defined as women-led organisations working to advance gender equality and women's rights (WomanKind Worldwide, 2013). Women rights organisations operate at different levels, in different and addressing a diversity of issues. There are grassroots women organisations which have strong base and links with communities such as Coalition of Women Farmers, Coalition of Women Living with HIV and Women's Forum. Others are operating at policy making levels, engaged in advocacy and accountability work at national, regional and international levels.

Women's rights organisations and movements are considered a vital catalyst for gender equality and the realisation of women's rights. In many different spheres women are mobilising themselves to raise their concerns and achieve change. Women's rights organisations can empower and mobilise women, including the poorest and most marginalised, to come together to know and claim their rights (Woman Kind Worldwide, 2013). Women rights organisations have helped to illuminate women's lived realities and helped to raise women's voices on issues that affect their lives. These structures have an important role in sustainable energy development.

There are a number of women rights organisations in Malawi. The study had an opportunity to consult four of the women rights organisations namely Women and Law in Southern Africa (WLSA), Women Legal Resource Centre (WOLREC), Coalition of Women Farmers (COWFA), Southern Region Women's Forum.

The study established that women rights organisations in Malawi are strategically positioned to engage in sustainable energy development as their main focus is on women rights issues including access to resources. They already have information, working with women groups, on issues that affect women such as lack of access to resources. It is just a matter packaging the issues to align them with the sustainable energy agendas. There were however identified challenges.

4.2.4.1.1 LIMITED FOCUS ON SOCIAL AND ECONOMIC RIGHTS

Access to sustainable energy mainly deals with women's social and economic rights. Although the women rights organisations recognised the need to promote women social and economic rights, all the four women rights organisations consulted acknowledged their lack of engagement in social and economic rights such as sustainable energy. One women rights activist observed that many women's rights organisation are more focused on promoting civil and political rights with few engaging in social and economic rights. She said that women rights organisations are still working on issues that they think are pertinent such as promoting women's participation in politics and addressing issues of gender-based violence, leaving out emerging issues which are equally important. Women rights organisations are said to be promoting 'pink ribbon agendas', which just aim at making women more visible and not enhancing their informed participation in pertinent development agendas such as sustainable energy. She said women rights organisations are promoting women's participation in decision making and their emphasis is more on mathematical representation based on the 50-50 notion of equality.

'Women need to understand the issues to effectively participate in decision making, articulating the issues well. We need to understand today's agendas. As women rights organisations we are stuck up with old/yesterday's agendas and have not taken up new issues. We are not proactive to deal with emerging issues that are equally important' (WOLREC, Executive Director).

There was also an observation that important processes and avenues which could be utilised to promote women's social and economic rights such as women's access to sustainable energy are missed. An example given was on CEDAW reporting. Both Government and Shadow reports have not adequately included issues related to women's social and economic rights. There was observed need from the women rights organisations consulted for wider participation in the report writing of the shadow report which they said is an opportunity but only done by one organisation. They believe wider participation could inform and strengthen the report from other women rights organisations. There was also an observation that issues to be included in the shadow report should not just be negative but also include positive developments, innovative ideas tried and working such as on sustainable energy technologies, those that are not captured in government CEDAW report. There was an observation that too many women's stories, including those related to sustainable energy development are going untold.

4.2.4.1.2 LIMITED PARTICIPATION IN POLICY AND LEGAL REFORM

The women's rights organisation representatives said that laws and policies including those related to sustainable energy are not engendered. There was an observable missing link between NGOs especially women's rights organisations and the people who are mandated to draft policies and laws for government. They said some women rights organisations have been trying to engage the law commission and the commission has not been very open in terms of explaining the processes and stages involved. The women rights organisation representatives said that sometimes they realise the law has already gone to parliament and they have not provided their input.

An example given was on the Land Bill. Many organisations especially women rights organisations did not follow/know the stages. When some of the organisations tried to follow up at the printers, they were told that there were no copies. They went to the Ministry of Lands and were told they do not have copies and next thing they heard the Bill had gone to

parliament for discussions. Other women rights organisations tried to meet Members of Parliament on the Land Bill when it was already in parliament but from their input little went into the Bill. It was observed that most of the time parliamentarians go by what the drafters have said and later after passing the Bill they then think of redrafting and reviewing it which is retrogressive. It was observed that the process of law reform is highly politicised with real hard core politics and actors who are trying to change the laws. One of the women rights activists, a legal specialist was of the view that as much as the law reform process should be participatory, there are some aspects of the law which only lawyers or people who have been privileged to study its aspects can understand it. She said laws have nuances that you cannot see written down but you see them in judgments. And you see how judgments for instance are made using certain principles. She said Malawi is in need of a framework of law engendering process.

4.2.4.1.3 **POOR CO-ORDINATION**

Another factor observed is that women rights organisations are divided. One of the women rights activists said there is usually no collective effort/position. Women rights organisations need to accept that differences exist and that there is a need for collective voice on certain issues. Poor coordination stemming from attribution was cited as contributing to the divisions. Some women rights organisations want to be singled out as the ones who have done the work, impacted on the laws and policies. This is seen largely as a marketing strategy for donor funding. The major challenge identified was integrative collaboration, appreciating women diversity, different identities. It was observed that women's rights activists close up to others who they as being different from them and do not open up to different and new ideas, an issue of 'it has to be my way or no other way' fear of stepping out of our comfort zones. As women rights organisations and individual activists, it was observed, there is a need to constantly and continuously ask, 'Who are we representing, which women, who are we accountable to, whose voice are we amplifying, are being heard, if not why not?'

4.2.4.1.4 LACK OF STRATEGIC GUIDANCE ON WOMEN RIGHTS WORK

Women rights organisations in Malawi are conversant with the gender agendas but the challenge has been on the consolidation and packaging of the agendas for the local consumption. There is a need to package and repackage the gender agendas so that all women's rights organisations are clear on what they are expected to deliver promoting women's rights. In 2013, there was effort coordinated by UN Women, Ministry of Gender

and other women's rights organisations and a communique was developed outlining what issues government and stakeholders should address.

A member of one of the women rights organisations said there is need for the organisations to have a clear direction on women's rights work in Malawi. She said that women's rights work was handled under gender equality, a concept which has not been properly defined in the Malawian context. There is lack of clarity how women rights work fit into the concept.

Another women rights activist said that there is need for women rights organisations to collectively work on a framework that is going to guide women rights work in the country. Individual and unstructured efforts from women rights activism found to be energy draining and creating social stigma as activists are given all sorts of labels and names.

There was acknowledgement from all organisation consulted that as women rights organisations they are instrumental creating an enabling environment for women to engage in the sustainable energy.

4.2.4.2 The national gender machinery

Government of Malawi started working on women issues since Independence but a structured effort was evident in the establishment of the National Commission on Women in Development in 1984. Responsible for coordinating the empowerment of women in Malawi the structure was under what was then the Ministry of Women. This is what currently is referred to as the National Gender Machinery. The Ministry of Gender is simultaneously called the National Gender Machinery bearing the political and administrative mandate for effective and efficient implementation of the gender oriented strategic objectives of the global, regional and national instruments including the National Gender Policy. The National Gender Policy mandates the Ministry to take the lead in the formulation, implementation, coordination and monitoring and evaluation of the Policy, and to oversee the mainstreaming of gender in all development processes.

4.2.4.2.1 LACK OF ENGAGEMENT IN SUSTAINABLE ENERGY DEVELOPMENT

There was acknowledgement from the Ministry of Gender that it had not done much on promoting women involvement in sustainable energy development. However in the past three years the Ministry has been involved in a project promoting biogas technology in Mchinji and Dedza. Women were the main targets in the projects but adoption was low. Almost all Biogas digesters established under the project were not working. In Mchinji they were using pig waste as the population of cattle was low in the targeted areas. Although the digester also uses pig waste apart from cow dung, people were reluctant to use pig waste as it smells just like human waste. In Dedza one of the targeted households that met the requirements sold their cattle due to cattle rustlers. The Ministry however was not aware of the gender issues related to the biogas technology.

4.2.4.2.2 INADEQUATE CAPACITY

A respondent in the Ministry of Gender said that the ministry has been challenged in its role as national gender machinery by poor resource allocation, lack of expertise to engage in some key agendas such as sustainable energy among other things.

One of the women rights organisation representatives said that there is no capacity within the Ministry of Gender as positions in the Ministry are not given based on merit. She said that most people in top positions in the Ministry do not have grounding in gender, starting with the Minister herself (Minister as of November, 2013). She said that the UN Women (which has been operational in Malawi for almost two years) is however changing the gender programming landscape, trying to strengthen the capacity of the National Gender Machinery. She said that the National Gender Machinery, just like women rights organisations, stuck with old agendas, has not widened its horizon to deal with development issues such as sustainable energy.

4.2.4.2.3 COMPROMISED POSITION ON WOMEN'S RIGHTS

One of the women's rights activist consulted in this study said that although the Ministry of Gender has done some good work, it has taken an apologetic approach, trying to balance men's issues and women issues, when it is evident and well known fact that women have more issues.

4.2.4.2.4 Dysfunctional Support Structures

Other structures that also form part of the National Gender Machinery is the NGO Gender Coordination Network. According to the National Human Development Report, 2010, the NGO Gender Coordination Network (NGO GCN) does not have a mechanism to enforce the coordination of gender interventions among the NGOs that work specifically on gender issues. As a result most NGOs operate as individual entities without answering to the NGO GCN (UNDP, 2010). Some important issues such as sustainable energy development are not taken on board by the NGO GCN.

Another structure promoting gender equality affiliated to the National Gender Machinery is the Women Caucus in Parliament. This is a consortium of women parliamentarians whose main objective is to promote gender ideals and women empowerment in all legislative activities. However criticism is levelled against women parliamentarians that they tow party lines. They are afraid to use their position in parliament to advance women's rights, an issue of political patronage. Political parties are regarded as the most undemocratic structures where women reduced to mere listeners and hand clappers. Women parliamentarians know the issues but do not have the muscle to rise up above party politics. Challenging for change women parliamentarians feel like they are challenging their political parties and leaders.

4.2.4.2.5 WINDOW DRESSING

Commenting on the laws and policies, one of the women rights activists said that gender laws developed with support from the National Gender Machinery have had little impact on women's rights. An example, she said, is the Gender Equality Act 2011 whose provisions were not as comprehensive as expected. She said that it was more of window dressing, trying to show that government is sensitive to gender and they came up with gender equality law. She said in terms of operationalizing it, it is not clear how it will be done. She gave an example of provisions in the Act on engaging the private sector. She said that it is not clear how the private sector is going to be engaged. She also said that there has not been any effort to sensitise people on what is provided in the equality law. She said it is a challenge, women cannot use the law when they do not know what is provided in it. She said this is however not to undermine the role the law is playing. She said that law in Malawi is helping to transform lives of women but that people, especially women, need to understand the provisions to effectively use it.

4.2.5 Socio-cultural values, beliefs and practices

The study also established that social and cultural values, beliefs and practices were limiting women's access to sustainable energy sources. The dominant paradigm that women are care

providers and nurturers in the home confines them to backbreaking activities. Cultural beliefs such as women cannot own land and make decisions influences women's participation in development activities such as sustainable energy development. According to UNDP's National Human Development Report 2010, men are socially empowered to start making decisions at an early age, whereas most Malawian women are not socially empowered to be assertive and make decisions that would influence economic management and the power relations within their households (UNDP, 2010).

An example is the biogas project being run by Mzuzu University. Men were the ones making decisions and yet women are known to be the energy managers in the home. One of the women rights activists interviewed were of the view that access to sustainable energy should not be separated from access to economic resources. If a woman, for instance, has decided to go for sustainable energy technology, the question policy makers and development planners should ask is, 'Does she have the capacity to execute her decision?' Women's access to sustainable energy is about access to and ownership of resources and assets. It is about who controls what, who accesses and owns which resources, who makes decision over what resources. Traditionally women especially married women in Malawi are not expected to own assets/productive resources of their own (ILC, 2011).

Traditional and cultural beliefs and practices also limit women's access to sustainable energy as evidenced in the Project implemented by Mzuzu University. For the male headed households who agreed to engage in the project, some of the digesters had become dysfunctional. In some of the households, women were prohibited from collecting dung in the kraal due to fetish beliefs that the cows would become less productive. This is, it is believed, to be one of the cautionary measures prescribed by traditional medicine men who provide charms to protect cows from theft. The men in the area were involved in their own daily activities which took them away from home most of the time. The women had to wait for the men to come and collect the dung for them. In other cases men were reluctant to go and touch the dung unlike the women who said they were used to touching cow dung when smearing floors of their houses in the village. Despite the highlighted benefits of reduced workload, increasing the speed at which they light the fire and cook and promoting smart cooking (no fumes and smoke), convenience during rainy season compared to wet firewood which takes a longer time to light, the study shows that men could not easily identify with the benefits of the digesters as they were not responsible for using energy in the home. In one of the household that had a biogas digester, the man withdrew the cows to use them to pay lobola for a second wife in another district away from the project area and the digester became dysfunctional.

4.3 Impact of women's lack of or limited access to sustainable energy

There is recognition that the impact of women's lack of or limited access to sustainable energy are many but the study identified the following:-

4.3.1 Women's limited engagement in other development initiatives

Outlining a vision for sustainable development for all, the Rio+20 outcome document, 'The 'Future Women Want' brings our attention to the need to incorporate a gender perspective into energy programmes, including the UN's Sustainable Energy For All initiative. One of its texts readst:

'We recognize the critical role that energy plays in the development process, as access to sustainable modern energy services contributes to poverty eradication, saves lives, improves health and helps provide basic human needs. We stress that these services are essential to social inclusion and gender equality' (UN Women, 2012).

This study established that women's lack of access to sustainable energy was limiting their participation in other development activities such as conservation agriculture. This is an initiative being promoted by an organisation called Blantyre Synod Health and Development Commission. Conservation agriculture (CA) is a technological approach used to increase the agricultural production of smallholder vulnerable households in Malawi. It has been promoted as an ecologically sound means of helping to achieve food security in Southern Africa by a range of stakeholders including the NGO community, farmer organisations, research institutions, intergovernmental organisations such as the Food & Agriculture Organisation (FAO), the African Union's New Partnership for Africa's Development (NEPAD), and the Common Market for East and Southern Africa (COMESA). This is an approach aimed at addressing the reduction of soil organic matter which provides nutrients for the crop but also, is a crucial element for the stabilization of soil structure (FAO). In Malawi, the conservation agriculture practices recognised by the National Conservation Agriculture Task Force (NCATF) and adopted for use by smallholder farmers involve managing crop residue, maize stalks, on the soil surface with no tillage, adopting high maize

plant density, fertiliser use, and the use of herbicides as the preferred option for weed control (Concern Universal, 2011).

Women in Blantyre rural have been faced with the challenge to choose between conservation agriculture or to use the maize stalks as cooking fuel. Although it has been recognised as one of the strategies to help food security and land management, there is limited evidence of scale-up of Conservation Agriculture beyond demonstration plots. Some of the reasons cited for the slow adoption rate include technical, economic and cultural factors. Cultural factors include fuel for household use (Concern Universal, 2011).



Figure 10: Photographs (left) of garden covered by maize stalks, practising CA in Stande Village and (right) a woman collecting maize stalks for cooking

4.3.2 Failure to use knowledge on improving nutrition

In both Blantyre Rural and Urban women said that they opt for quick cooking meals such as vegetables and the local maize pulp *nsima*. Although they have knowledge on the importance of a balanced diet they fail to meet the dietary needs due to lack of resources including energy to cook food like beans which take longer and require more fuel. This compromises their nutrition status and that of their family members. Malnutrition is devastating and the single biggest contributor to child death. In Malawi studies show that malnutrition rates have remain unacceptably high. Around 46 percent of children under five are stunted, 21 percent are underweight, and four percent are wasted (UNICEF). Micronutrient deficiencies are common. The Ministry of Health's Micronutrient Survey (2001) revealed that 60 percent of children under five and 57 percent of non-pregnant women had sub-clinical Vitamin A

deficiency. Vitamin A deficiency lowers children's immunity and reduces their chances of surviving a serious illness (UNICEF).

4.3.3 Failure to engage effectively in business development

The study established that many of the women who participated in the study in both Blantyre rural and urban were engaged in small enterprise initiatives through the Village and Savings Loan schemes (VSL) popularly known as bankiyammudzi (village bank). In Blantyre rural women were involved in businesses such as beer brewing, selling cooked fresh maize, vegetables, fritters, firewood. Women in Blantyre urban were involved in selling charcoal, second hand clothes, fritters, fizzy drinks, sweet beer, popcorn, samosas, fried potatoes. It was observed that most of these businesses require cooking energy. Article 14(2)(e) of CEDAW makes a case for women's self-mobilised groups such as the VSLs based on the fact that due to discrimination, women are not always given an opportunity for economic empowerment, thus the necessity for their own organisations to facilitate it. Policy makers and development planners in sustainable energy development need to take this into consideration when designing policies and programmes, to align initiatives with income generating activities.

Apart from very few women who shared testimonies that their business had grown and were diversifying, the majority of the study established most of the businesses were operating on the same level and bringing the same profit, sometimes even less. Women mentioned firewood and charcoal purchases as one of the household items which consume a greater part of their profits.

CHAPTER 5

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study established that women's lack of or limited access was mainly due to exclusion. The factors contributing to exclusion include unfavourable policy and legal environment characterised by gender blind policies and laws; lack of recognition of women's knowledge and capacity; lack of or limited women's access to resources; socio-cultural values, beliefs and practices.

The policy and legal environment does not support women's access to sustainable energy. Key legal and policy frameworks such as the National Gender Policy and the National Energy Policy do not provide policy direction on promoting women's access to sustainable energy. The two policies are not in unison. Although the National Energy Policy has some gender considerations, they are not well informed by energy and gender issues in Malawi. The right to access sustainable energy is not explicitly provided for in the Constitution.

Stereotypical perceptions that sustainable energy is scientific and technical, therefore a male domain, are contributing to women's exclusion from the sustainable energy discourse. This is contributing to their lack of or limited access to sustainable energy. However this myth has been debunked by existence of barefoot engineers, women involved in solar installations in the country.

Women's lack of or limited access to resources such as land and other resources is limiting women's engagement in sustainable energy development. They lack or have limited access to sustainable energy technologies.

Socio-cultural values, beliefs and practices are contributing to excluding women from sustainable energy development. Beliefs such as that women cannot own land and other assets and that men as head of households are responsible for making decisions are some of the identified socio-cultural practices, values and beliefs.

Policy makers and programme planners have limited understanding of the strata in the role women play as energy providers, users and managers at household level and how these relate to key elements of sustainable energy namely affordability, availability, accessibility and sustainability. Women's needs are generalised based on their role as energy providers, which is associated with availability, evident in the popularised objective of saving women's time and reducing their drudgery by providing energy saving technologies.

Women rights organisations in Malawi, which can play important roles as educators and activists concerning energy efficiency, renewable energy sources and also promote and act as active lobbyists for the involvement of women in sustainable energy development are not engaged in sustainable energy development agendas.

The National Gender Machinery, whose mandate is to promote gender equality and women's rights is not engaging in sustainable energy development.

In policies and programmes assessed by the study, women are treated as a homogenous group. This has implications as women energy needs vary evident in the two studies set-ups, the urban and the rural.

5.2 **Recommendations**

Women need to be engaged at all levels of sustainable energy development. Women have pragmatic interests and knowledge such as efficient fire management, fuel-saving techniques, and the advantages and disadvantages of different fuels and stoves (ILO, 1987). Manufacturers of sustainable energy technologies need to pay attention to women's needs or risk missing a huge potential market. It also calls for policymakers and development planners not to ignore women's needs as they will be failing to make use of a powerful and important force for sustainable energy development. Researchers in the energy sector who leave women out will not be able to understand a large part of energy consumption and production.

There is a need to improve the understanding of gender equality, women rights and sustainable energy development nexus. Policy makers and development planners need to understand and appreciate that women can be powerful actors for change in the transition to sustainable energy. Their knowledge and capacities need to be harnessed for effective sustainable energy development. Their involvement in the design, distribution, management and consumption of sustainable energy solutions is critical.

Gender analysis for the energy sector needs to be promoted as this will help to understand the gender related and women specific needs. For instance it will help policy makers and development programme planners women energy needs related to availability, affordability, accessibility and sustainability which are key tenets of sustainable energy.

Women-led sustainable energy initiatives and projects should be promoted. Studies have shown that they are successful in the new energy era. Women should be front-liners as entrepreneurs and providers of sustainable energy solutions at the national and community levels. Women rights organisations and activists need to tune into the sustainable energy development discourse. Engagement of women rights organisations in sustainable energy may provide other women with comfortable spaces within which to learn about technologies and discuss their particular concerns.

Government policies related to sustainable energy and gender equality should be 'talking-toeach-other'. There is need for well aligned polices that relate and inform each other. Policy makers need to take advantage of the current environment where the national gender policy has not been adopted to include policy priorities that cater for women's access to sustainable energy. The energy policy is due for revision and as the energy department undertakes the processes, it is an opportune moment to ensure that gender is not just an add-on but a wellintegrated component of the policy.

Laws and policies need to cater for the right to access sustainable energy. The right needs to be included in the Constitutions, to make it justiciable with mechanisms responsible for its implementation.

There is a need to build the capacity of the National Gender Machinery with knowledge on the linkage between gender equality and sustainable energy development.

There is a need for Government to domesticate legal provisions in international instruments which are providing for the rights to access sustainable energy.

Bibliography

Aikman S., Halai A. and Rubagiza J. (2011) Conceptualising Gender Equality in Research on Education Quality. DFID. Journal Article. Available online on http://dx.doi.org/10.1080/03050068.2011.541675 accessed on March 28, 2014.

Annecke W. (1999) Concept paper for energy and women: lessons learned. EDRC, University of Cape Town.

AWID (2004) Intersectionality. A Tool for Gender and Economic Justice. Available online at: <u>http://web.uvic.ca/~kreed/ws205/intersectionality_awid.pdf</u> Accessed on 24/01/2014.

Banda F. (2005) Women, Law and Human Rights. An African Perspective. Hart. Oxford.

Banda K. and Mehlwana M. (2005). Equity and Gender in Climate Change. NOVAFRICA.

Barnett H. (1998) Introduction to Feminist Jurisprudence. London: University of London.

Bentzon A.W. *et al.* (1998) Pursuing Grounded Theory in Law: South-North Experiences in Developing Women's Law. Mond Books and TanoAschehoug, Harare and Oslo.

Blackmon J. (2008) I Am Because We Are: Africana Womanism as a Vehicle of Empowerment and Influence. Blacksburg. Available online on <u>http://scholar.lib.vt.edu/theses/available/etd-06302008-</u> <u>182302/unrestricted/JBlackmonthesis.pdf</u> Accessed February 2, 2014.

Bradbrook A.J. (2005) Access to Enenergy Services in a Human Rights Framework. University of Adelaide. Available on <u>http://www.un.org/esa/sustdev/sdissues/energy/op/parliamentarian_forum/bradbrook_hr.pdf</u> accessed on September 26, 2013.

Broody A., Demetriades J. and Esplen E. (2008) Gender and Climate Change: Mapping the Linkages - A Scooping Study on Knowledge and Gaps. Available online on

http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/DFID_Gender ______Climate_Change.pdf accessed on November 30, 2013.

Cecelski E. (2000) The Role of Women in Sustainable Energy Development.NationalRenewableEnergyLaboratory.Availableonlineonhttp://www.nrel.gov/docs/fy00osti/26889.pdfaccessed on October 4, 2013.

Concern Universal (2011) Conservation Agriculture Research Study Report. Not published.

Dahl T.S. (1987) Women's Law: An Introduction to Feminist Jurisprudence, Oslo: Norwegian University Press.

Danielsen K. (2012) Gender Equality, Women's Rights and Access to Energy Services. An Inspiration Paper in the Run-up to Rio+20. Denmark. Available online on http://eu2012.dk/en/Meetings/Other-

Meetings/Apr/~/media/Files/Other%20meetings/April/EU%20Sustainable%20Energy%20for %20All%20Summit/Gender%20Energy%20Report.pdf accessed on 10/09/2013.

Energy4me (2014) Definition of sustainable energy. Available online on http://www.energy4me.org/energy-facts/energy-sustainability/ accessed on March, 2014.

FAO (2000) Gender and development: Why do we still have problems in population programmes after all these years. Available on <u>http://www.fao.org/sd/wpdirect/wpan0047.htm</u> accessed on December 4, 2013.

FAO (2014) Conservation Agriculture. Agriculture and Consumer Protection Department. Available online on <u>http://www.fao.org/ag/ca/1a.html</u>.

Filmer-Wilson E. & Anderson M. (2005) Integrating Human Rights into Energy and Environment Programming: A Reference Paper. Available online on http://www.hurilink.org/tools/Integrating_HRs_into_Energy_and_Environment_Programming.g.pdf accessed on October 13, 2013.

Gamula G., Hui L., and Peng W. (2013) An Overview of the Energy Sector in Malawi: Energy and Power Engineering. Published online <u>http://www.scirp.org/journal/epe/</u> accessed on 24/02/2014.

Glesne C. & Peshkin A. (1992) Becoming qualitative researchers: An introduction. White Plains, New York: Longman.

ICL (2014) Difference between sustainable energy and renewable energy. Available online on <u>http://www3.imperial.ac.uk/energyfutureslab/about/sustainableenergy</u> accessed on January 13, 2014.

ICTSD (2013) International Trade and Access to Sustainable Energy: Issues from Country Experiences. Available online on <u>http://ictsd.org/downloads/2013/12/seta-ita_sust_energy.pdf</u> accessed on November 12, 2013.

IEA (2004) World Energy Outlook. OECD/IEA. Paris. Available online on<u>http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/weo2004.pdf</u> accessed on November 14, 2013.

IEA (2006) World Energy Outlook. OECD/IEA. Paris. Available online on <u>http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/WEO2006.pdf</u> accessed on November 15, 2013.

ILC (2011) A Comparative Action Research Project in Patrilineal and Matrilineal Societies in Malawi. Available online on <u>http://www.landcoalition.org/sites/default/files/publication/959/WLR_9_Malawi.pdf</u> accessed online on December 6, 2013.

ILO (1987) Linking Energy with Survival: Energy, Environment & Rural Women's Work, Geneva.

IOB (2013) Renewable Energy: Access and Impact. Available on Download at: <u>http://www.iob-evaluatie.nl/publicaties</u> accessed on February 24, 2014.

74

Kabwila Kapasula J. (2013) Key Gender Issues in Malawi. UN Women. Available online on http://www.scotland-malawipartnership.org/documents/55-

JessieKabwilaKeyGenderIssuesinMalawiMay2013.pdf accessed on March 10, 2014.

Kambewa *et al.* (2007) Charcoal: The reality. International Institute for Environment and Development, London, UK.

Kambewa P. and Chiwaula L. (2010) Biomass energy use in Malawi. International Institute for Environment and Development (IIED). Chancellor College, Zomba. Available online on http://pubs.iied.org/pdfs/G03075.pdf accessed on September 18, 2013.

KameriMbote P. (2002) The Impact of Traditional/Religious Institutions on Gender Relations and Gender Discriminative Practices and Scope for Changing Negative Trends: A Case Study of Select Pastoral Communities in Kenya - report prepared for the Netherlands Organisation for International Development Cooperation (SNV), the Hague.

Kameri-Mbote P., Hellum A. and Nyamweya P. (2011) Pathways to real access to landrelated resources for women: Challenging and overturning dominant legal paradigms, in A. Tsanga and J. Stewart (eds) Women and Law: Innovative Regional Approaches to Teaching, Researching and Analysing Women and Law, Harare: Weaver Press.

Kanyongolo *et al.* (2011) Human Rights, Gender and Water: A Case Study of Women, Active Citizenship, Law Reform and Water Governance in Malawi. Malawi Law Journal. Vol 5 Issue 2. Available on line on <u>http://www.lawjournal.mw/5-2.aspx</u> access on January 31, 2014.

Kawulich B.B. (2004) Data Analysis Techniques I Qualitative Reader: State University ofWestGeorgia.Availableonlineonhttp://www.eeraonline.org/journal/files/2004/JRE_2004_08_Kawulich.pdfaccessed October27, 2013.

Langeveldt V. (2011) Gender Equality in Malawi: The Way Forward. Discussion Paper.OptimisticAfrica.Availableonlinehttp://www.consultancyafrica.com/index.php?option=com_content&view=article&id=716:ge

<u>nder-equality-in-malawi-the-way-forward-&catid=90:optimistic-africa&Itemid=295</u> accessed on April 4, 2014.

Leilani F. (2008) Committee on the Elimination of All Forms of Discrimination against Women, in M. Langford (ed) Social Rights Jurisprudence. Emerging Trends in International and Comparative Law. Cambridge University Press.

Lipinge E.M. & Williams M. (2000) Gender and Development. Windhoek: John Meinert Printing.

Lorber J. (1996) Beyond the binaries: Depolarizing the categories of sex, sexuality, and gender. Sociological Inquiry.

MacGregor S. (2012) Feminist Perspectives on Sustainability. Lancester University. EOLSS. <u>http://www.eolss.net/Sample-Chapters/C13/E1-45-05-12.pdf</u>.

Mather A.S. and Fairbairn J. (2000) From Floods to Reforestation: The Forest Transition in Switzerland: Environment History 6, No 4. Available online on http://www.environmentandsociety.org/sites/default/files/key_docs/mather-fairbairn-6-4.pdf.

Meena R. (1992) 'Gender research/studies in southern Africa: An overview'. In Meena R. (ed.) Gender in Southern Africa: Conceptual and Theoretical Issues. Harare: SAPES Books.

MHRC (2005) Cultural Practices and their Impact on the Enjoyment of Human Rights, Particularly the Rights of Women and Children in Malawi. Available online on http://www.humanrightsimpact.org/resource-

.database/publications/resources/view/174/user_hria_publications/ accessed on August 11, 2013.

Miles M.B. & Huberman M.A. (1994) Qualitative Analysis: An Expanded Sourcebook (2nd ed). Thousand Oaks. California. Sage.

Mohammed M., Heijndermans E. and Mboribuni S. (2013) Behind the Butter: An energy Analysis of Shea Butter Processing. SNV. Publications for Agriculture and Renewable Energy.Ghana.AvailableonlineonSectorshttp://www.snvworld.org/download/publications/final_shea_butter_processing_report_enno_19-0accessed on November11, 2013.

Murtala A., Aliyu B. & Babagana G. (2012) Biomass Resource as a Source of Sustainable Energy Production in Developing Countries. Volume 1, Number 2 : 1 03 - 11 2, Department of Environmental Engineering. ISSN 2088-6586. Jakarta. Available online on https://www.trisanita.org/japes/apespaper2012/apes14v1n2y2012.pdf accessed on September 29, 2013.

Mwale P.N. (2002) Where is the Foundation of African Gender? The Case of Malawi.Nordic. Available online on <u>http://www.njas.helsinki.fi/pdf-files/vol11num1/mwale.pdf</u> Accessed on April 3, 2013.

Ngwira N. (2012) Gender and Poverty Reduction in Malawi. Available online on http://www.un.org/esa/socdev/social/meetings/egm10/documents/Ngwira%20paper.pdf.

NSO (2008) The Malawi Population and Census Report. http://www.nsomalawi.mw/images/stories/data_on_line/demography/census_2008/Main%20 Report/Census%20Main%20Report.pdf.

NSO (1998) Population and Housing Survey. Available online on http://www.nsomalawi.mw/index.php/2008-population-and-housing-census/107-2008-population-and-housing-census-results.html accessed on 15/11/13.

NSO (2011) Integrated Household Survey. Available online on http://www.nsomalawi.mw/images/stories/data_on_line/economics/ihs/IHS3/IHS3_Report.pd f.

Putnam H. (1987) The Many Faces of Realism. La Salle: Open Court Publishing Company.

Putnam H. (1990) Realism with a Human Face. Cambridge, Mass: Harvard University Press.

Reddy A.K.N. (2000) Energy and Social Issues, in "World Energy Assessment", UNPD, New York.ISBN 92-1-126-126-0.

Rio Declaration on Environment and Development The United Nations Conference on Environment and Development. Available online on http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163 accessed on 27/12/2013.

Sachs W. ed. (1992) The Development Dictionary. Witwatersrand University Press. Johannesburg.

Shiva V. & Mies M. (1993) Ecofeminism.Frenwood Publications. Halifax.

Sims C.L. (2008) Faceted Identities: Extending Intersectionality. University of Colorado. Chicago. http://www.academia.edu/195897/Faceted_Identities_Extending_Intersectionality.

Strauss A. & Corbin J. (Eds.) (1997) Grounded theory in practice. Thousand Oaks, California: Sage Publications.

Tsanga A. *et al* eds. (2011) Women and Law, Innovative Approaches to Teaching Research and Analysis. SEARCWL with Weaver Press.

UN Women, 2012. The Future Women Want: A Vision of Sustainable Development for All. Available online on <u>http://www.unwomen.org/~/media/Headquarters/Media/Publications/en/TheFutureWomenW</u> <u>ant.pdf</u> accessed on December 15, 2013.

UN Women (2012) Equality, Empowerment and Energy From CSW to Rio+20. Available on line on http://www.un.org/womenwatch/daw/csw/csw56/side_events/MRFCJ_and_UNW_sideevent_ FINAL.pdf accessed on September 10, 2013.

UN (2006) Economic and Social Council.Commission on Sustainable Development Fourteenth session. Discussion papers submitted by major groups: Contributions by Women.

E/CN.17/2006/5/Add

http://www.un.org/ga/search/view_doc.asp?symbol=E/CN.17/2006/5/Add.1&Lang=E

UN (2011) A Vision Statement by Ban Ki-moon Secretary-General of the United Nations. Sustainable Energy for all<u>http://www.un.org/wcm/webdav/site/sustainableenergyforall/shared/Documents/SG_Sustainable_Energy_for_All_vision_final_clean.pdf</u>.

UNDP (2010) Malawi National Human Development Report. Gender and Human Development in Malawi: Women and the Potential of Achieving the Millennium Development Goals.

UNDP (2005) Energizing the Millennium Development Goals: A Guide to Energy's Role in Reducing Poverty. Available online on http://www.undp.org/content/dam/aplaws/publication/en/publications/environmentenergy/www-ee-library/sustainable-energy/energizing-the-mdgs-a-guide-to-energys-role-inreducing-poverty/ENRG-MDG_Guide_all.pdf accessed on

Watson E. (2006) Gender and natural resources management. Cambridge: University of Cambridge.

Stock A. (2013) Promoting Security and Stability Through Partnerships for Sustainable Energy. WECF. 2nd Preparatory Meeting/21st OSCE Economic and Environmental Forum, Kyiv, 16-17 April 2013 - Session V.

WHO (2006) Fuel for life: Household Energy and Health. Available online on http://www.who.int/indoorair/publications/fuelforlife.pdf accessed on December 28, 2013.

WHO (2010) Gender, Women, and the Tobacco Epidemic: 10. How to Make Policies More Gender-Sensitive.

Yaron G. *et al.* (2010) Malawi Poverty and Environment Initiative Economic Study. Consultancy Report Submitted to the Ministry of Development Planning and Cooperation and United Nations Development Programme (UNEP Programme).