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RURAL WOMEN AND THE CONSEQUENCES OF DROUGHT

- A Case Study of How Severe Droughts Can Affect Female Farmers Living in Babati District in Northern Tanzania, and How This May Reflect a Global Context

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Abstract

This is a thesis regarding a local event that occurred in Babati district in North-Eastern Tanzania during the autumn of 2009. In the district the period between June-November is normally a dry period, but this year the serenity of the drought was considered as harsher than usual. The majority of the workforce in Tanzania and in Babati is within the agricultural sector, and thus are directly dependant on the weather for the cultivation of the crops. A severe drought that wipes out the larger amount of the yield is devastating for the farmer-households, both socially and economical. The drought in question may or may not have been a result of climate changes, but it can be used as a mirror to future and present events that actually happens due to a changed climate. The reactions and consequences that this drought had on the people who got affected can tell us something about how future changes of the climate, or even temporary fluctuations of the weather, may concern people globally.

My field study confirms the gendered imbalance in resilience against ecological changes, by illuminating how the women-headed households were the group that had been hardest hit of the farmers that I interviewed. This can be connected to a pandemic structure where poor, rural women constitute the most vulnerable group when it comes to ecological catastrophes and changed patterns in weathers and/or climate. The social impacts that the drought had on the inhabitants of Babati in general, and it's female inhabitants maintaining on agricultural in particular, works as a general example on how people that already constitute a marginalized group in society, are the least resilient when it comes to endure natural catastrophes.

Keywords used separately or in combination: *Female farmers, gender, climate-change, global warming, Africa, developing countries, Babati district.*

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1.0

Introduction

1.1 The Global Meaning of a Local Issue

“When it comes to issues concerning the atmosphere, there is no such thing as a geographically isolated problem.”

(Rathgeber, 2009 p.9)

Babati is one of five districts in the region of Manyara, situated in the North-Eastern parts of Tanzania. The region is located in a climate zone that is annually hit by droughts, which occur between the two rain-seasons. However, 2009 was an unusually dry year in Manyara, as well as in the adjacent regions of Arusha and Tanga. Worst was the drought that lasted from September to December, as a result of an unusually short rain-season between May and August and a delayed rain-season in late autumn-early winter. This autumn-drought of 2009 affected the region of Manyara in terms of heavy declined yield of crops, death of cattle and poverty for the farmers (Ubwani 2009). The aftermaths of a severe drought, as with all periods of extreme weather, are never isolated to purely environmental deprivations. Social costs go hand in hand with the environmental, and certain groups in society tend to suffer more from the consequences. These groups generally consist of people who lives in material poverty or people who are socially vulnerable and marginalized in other ways, with reason such as sex, sexual orientation, age and health problems (Parihk 2008). Several independent studies¹ have shown that poor women living in rural areas in developing countries are the group most vulnerable to climate change effects and weather fluctuations.

Since planet Earth is composed of a variety of systems that together form a functioning whole, and because the atmosphere has no geographical boundaries, what happens with the weather or the climate in Tanzania is not just an issue for the local inhabitants, but also an issue on a global level. The drought in Babati district in 2009 might have been a consequence of climate change, and if so, it is just a glimpse of what we can expect in the future. However, the drought might have occurred due to weather fluctuations, but even then the problem still persists; that the implications of changed weather-patterns hit some groups harder than it hits others. A interesting aspect to this is that all over the world, the most affected and vulnerable groups when it comes to implications of destroyed environment, global warming and similar problems, consists of poor women who subsist on agriculture. In that way, what happens with rural women in Babati due to variations in weather or climate, might tell us something in a global perspective.

¹ For example, see Masika 2002 and Momsen 2006.

1.2 Managing Anthropogenic Climate Change

In recent decades, humanity has begun to take action in the attempts to curb climate change. The UN-organ IPCC (Intergovernmental Panel on Climate Change) was formed in 1988 with the task to determine "the risk of climate change caused by human activities" (Flannery 2005). IPCC regularly publishes so called "assessment reports" containing scientific, technical and socio-economic information concerning human induced climate change, the potential impacts of these and options for mitigation and adaptation to these changes. At present time four assessment reports have been completed, and the preparations of the fifth assessment report is in progress. In the fourth assessment report it is reported how close to 250 million Africans will face increased water-related problems in 2020 due to climate change. It is also documented that the ones that will suffer most from this are poor women living in rural areas (Parry et al 2007).

The global climate has always experienced natural variations over time and changes in the climate occur as a result of internal variability within the climate system. Anthropogenic caused climate change, on the other hand, is at present creating considerable and widespread changes, by emitting large amounts of green house gases to the atmosphere (Malm 2006). According to authorities such as IPCC and UNFCCC², a drastic and global cut in emission of green house gases are imperative in order to stabilize the global climate and thereby avoid reaching a 'tipping point', beyond which very serious consequences cannot be reversed. The reduction of green house gases can be made in several ways, for example by switching from using fossil fuels to renewable sources of energy, limiting deforestation, implementing sustainable agricultural practices, and converting consumption patterns and lifestyles in industrialized countries.³ Although North America and Europe are the regions that historically and to date are responsible for the highest emission of greenhouse-gases into the atmosphere, IPCC has declared that future growth in emissions will come mainly from developing countries, due partly to population growth (McCarthy et al 2001). In the same report it is proclaimed that the most effective way for developing countries to adapt to changes in the climate is through gender-equitable sustainable development. This would generate the flexibility and the resources that are needed to manage the changes, this including skilled, educated, and healthy men and women (Masika 2002). In the meantime, millions of deprived women and men in affected regions are adapting to climate risk on their own initiative and with their own resources, with little or no help from their governments.

² UNFCCC (United Nations Framework Convention on Climate Change) is an international treaty, adopted at the Rio Conference in 1992 and that came in force in 1994. It has an objective to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent that human activity affects the climate system in a dangerous manner" (Flannery 2005 p.168).

³ The European Union believes that the transition from fossil fuels to bio fuels is the main and most important change that needs to be established in the globally in order to cut the emission of green house gases. This solution has however been denounced and by several scientists and NGOs as a false solution which already is harming poor people in developing countries, by exchanging local crops with large scale monocultures in order to cultivate for example sugar canes for ethanol (Rossi & Lambrou 2008).

Africa as a continent is the world's most vulnerable region to the impacts of climate-change; Tanzania is situated in one of the most vulnerable parts of the continent (Parikh 2009). Vast areas of land is threatened by desertification and shortage of water, however, the climatic zones in the areas around Babati-district are estimated to be more humid in a changed climate, which can imply more frequent floods and a heavier long rain (Parry et al 2007).

1.3 Question of the Issue

The question that I base my study on reads:

What can the social and gendered consequences that came about in the wake of the Babati-drought in 2009 tell us in a global, gendered-perspective context?

I am interested to study a local issue from a global perspective, namely whether the drought in Babati 2009 and the implications it had follows the same patterns as similar situations occurring in other parts of the world. The people that generally are most affected by natural disasters, i.e. poor women living in rural communities in developing countries, it is they and their experiences that is the focus of this study. I want to explore how they were affected both socially and economically, and if they experience that there were any gendered differences in terms of who suffered the most from the drought. Furthermore, I am interested in whether some types of household-formations were more affected than others, and if so, how the differences were characterized. Further I aim to examine how my informants perceive and contemplate the prevailing climate discourse.

1.4 Purpose and Limitations

My purpose of this study is to illustrate *if*, and in that case *how* the impacts of climate change could deepen already existing gender gaps. It is difficult to determine with certainty whether periods of extreme weather is due to changes in climate, weather fluctuations, or a combination of both. I would therefore like to emphasize that I do not regard the drought that hit Babati district in the autumn 2009 as a consequence of global warming.⁴ However, I think that the drought in question can serve as an example of how extreme weathers can affect people living in particularly vulnerable areas. My purpose should be understood in the context of my case study. I want to see *how* and *if* the equity between the sexes changed as an indirect consequence of the drought, and take in the results of this in an analysis of a larger context. I

⁴ According to IPCC's fourth assessment report (Parry et al 2007), the area around Babati district will most likely not suffer from drought as a consequence of possible climate change, but rather to a more humid climate.

believe that social structures that may have been constructed and changed as a result of the drought in 2009 can serve as a reflection of how people in different places around the world would respond if they were to be exposed to a similar situation. Therefore, my study will not be isolated to the Babati district; the aim is that it will have a more general function. Babati is not an isolated dot on the world map, it is a part of a global whole, and it is my belief that what happens there could happen anywhere.

This study focuses on the results of a case study that was conducted in Babati district, Tanzania, in February and March 2010. The district had suffered a period of extreme drought during the previous autumn. That awoke my interest for how people in general, and women in particular, managed to get through it. My interest in how this period of drought affected female farmers originates in the fact that the major part of women living in the district work as (small-scale) farmers, and also it is the duty of the wife to provide the rest of the household with food. In times of extreme drought and decreased yield, women are consequently required to work longer hours in order to supply their family with food.

1.5 Position of the Researcher

I believe it to be essential for a researcher to reflect on his or her personal position on the question of issue, as well as in the field. I am white and middleclass, with an education in gender science as well as in environmental science. The color of my skin and my social class makes me relatively fortunate all in all. I, and the world around me, identify me as a woman, which with existing gender structures in most times works to my disadvantage. However, when interviewing other women, my gender might rather be to my advantage. These facts may seem insignificant, however I am sure that who I am, what I represent and how others perceive me, has a large influence on the outcome of my study. Therefore I consider it to be important for the comprehensiveness of this study to give an account for it. The question of objectivity is another aspect that needs to be reflected on. Objectivity is as desirable as hard-reached in research-contexts. The recognition that as researchers, we never can be fully objective in how we perceive things is a poststructuralist way to reflect on our position on the matter (Haraway 1988), and it is a viewpoint that I share.

Before I went to Babati I already had created some kind of apprehension of my own regarding the subject of matter. This might certainly have colored the way that I perceived things, as it might have affect my objectivity. In the field I primary interviewed female farmers. They are women in a completely different position than I; they have a different way of life and other resources to live after. In the first hand, I am a student, visiting them from a country far away, asking them more or less personal questions. The significant difference is that it most likely could not be the other way around, since they do not have the money or the other means necessary to come to Sweden and ask me questions about my way of life. Moreover, most of my informants wondered about my questions and the aim of the study; they could not see how the information about their personal apprehension around different matters could result in

anything worth writing about. And furthermore, they said that they could not understand how me writing about it, in any way could improve their situation. It can be a cunning situation; as an inhabitant of one of the richest countries in the world travel to a developing country, trying not to perceive the world from the classic “us-them”-frame. The history cannot be excluded from the present in a way that we must have a constant awareness of the contents in our colonial backpacks. The colonization-phenomena has created a vast wall between the exploited and the exploiters, and even in this post-colonial time, there still is a thick piece of that wall left to break through.

I want to make clear that I, in no aspect, search to victimize my informants, nor to shuffle all rural women living in developing countries together as a homogenous group. Every human being represents a unique individual with her own ambition and experiences. Still, people living under similar conditions often share some interests and problems. Therefore I think that the experiences and apprehensions of the Babati-women might reflect other women, living in rural communities in other developing countries.

2.0

Theoretical Framework

“Rather than ‘adding women’ to standard methods of empirical research it is possible to include gender as a subject of study, to incorporate feminist post-structuralist perspective into the research design, and to apply it to an analysis of social and environmental change within the region.”

(Rocheleau et al, 1996 p.387)

2.1 Main Theory: Feminist Political Ecology

Political ecology can be described as the study of the relationships between political, economic and social factors within the frameworks of environmental issues and changes. It differs from apolitical ecological studies in the way that it politicizes environmental issues and phenomena (Hovorka 2006). One branch of political ecology is the relatively recently formulated theory of feminist political ecology. In difference to for instance eco-feminism, feminist political ecology does not search to essentialize women through equating the oppression of women with the domination of the environment (Rocheleau et al 1996). Instead it examines the place of gender in the political ecological landscape, and explores it as a factor in ecological and political relations. As said in the quotation above, feminist political ecology does not search to "add" the different experiences of women around the world to an already existing pattern to look upon things. The theory rather attempts to include gender as a "key element" in the understanding of the issues with which political ecology is concerned. Specific areas in which feminist political ecology are focused in includes development, resource distribution and use, agrarian reconstruction and rural – urban transformation (Hovorka 2006). The study of the relationship between environments, gender and development has grown recently due to the globalization and the restructuring of economies, environments and cultures at a global and local level (Hovorka 2006). Women and men are being viewed as actors who affect environmental management, resource use, and the creation of policies for health and well-being. The theory examines world-wide asymmetrical entitlements to resources based on gender and social status as well as the general neglect of female knowledge, and what this results in when it comes to handling the environment (Rocheleau et al 1996). Feminist political ecology does not view gender differences in environmental impact as being biologically-rooted. Rather, they are derived from social constructs of gender, which vary depending on culture, class, race, and geographical location, and they change over time between individuals and societies (Momsen 1996).

Feminist political theory links the global arena to the local, and the local to the global. It provides a complex holistic theoretical framework, underlining the interconnectedness of all life and how power relations never work singlehandedly. It rejects dualistic constructions of gender and environment and emphasizes the interconnection between ecological economical and cultural dimensions of changes in ecological systems (Rocheleau et al 1996).

Feminist political ecology searches to deconstruct traditional views on beliefs around women's and men's abilities to cope with different tasks and situations as well as gendered-based resource allocation. In my study I want to investigate why women tend to suffer harder than men from changes in their ecological surroundings, based on gendered allocations of resources such as education, land, financial means and social status. Further, I aim to examine whether there is any existing difference in how men and women copes with consequences of harsh weathers and if so, how this is manifested. I am also interested in how men and women apprehend and reflect on variations in weather and possible future changes of the climate.

2.2 The Concept of Intersectionality

Intersectionality is rather a sociological term than a theory, although it is often classified as one. It implies that different socially and culturally constructed power relations function on multiple and often simultaneous levels, contributing to systematic social inequality (Haraway 1988). I use the concept of intersectionality together with feminist political ecology, in order to examine the interconnection between different power-relations linked to environmental resources, social status and gender. The concept of intersectionality suggests that socially constructed models of oppression existing within society, as those based on race/ethnicity, gender, religion, nationality, sexual orientation, class, or disability, do not act independently but rather *interrelate*, creating a system of oppression that reflects the "intersection" of multiple forms of discrimination (Haraway 1988). For instance, it is not enough to realize that a woman living in a patriarchate system is oppressed because of her gender; all the power aspects must come to account in order to fully understand the situation of a person. To give an example it can be said that an old Muslim woman living in North is not just oppressed because she is a woman. The paradigm of intersectionality holds that because of the Northern general view on religion, she ranks lower in the hierarchy than a Christian woman. Because of her age she ranks lower in the hierarchy than a younger Muslim woman. If she in addition to this also is considered to be poor, or has some sort of health-related problems; she falls even further down the ladder of hierarchy. Intersectionality additionally suggests that different forms of expressed oppression create, and are created by, one another. In that way, different power relations never function isolated, but interconnected, reproducing and shaping one another.

The main group of interest in this study is rural women living in developing countries. They are structurally oppressed by a number of power-aspects; they are often (regarded as) poor, they lives within a patriarchal system, they are often without any higher education than primary school, and they are living in rural areas in the least developed parts of the world. To understand that these aspects amplify each other is imperative in gender-related work and in the climate change-discourse.

2.3 Previous Case-Studies

In the context of gender-differentiated consequences of climate change or other environmental issues, several studies have been made and published. The ones I have chosen to present I have selected because I consider them to be the reports that are of the most importance in relation to my own study.

The publication closest to my field of subject is “Gender, development and climate change” (Masika ed. 2002). It is a book containing essays from thirteen different researchers, each one describing a case where climate change and gender issues collide. Masika present through this book a complex picture of how the effects of a changing, more extreme climate directly reproduces and deepens existing gender structures and power relations between the sexes. I consider the message of the book to be of the utmost importance for the contemporary research of the social consequences of a changing climate. It clearly shows how traditional gender-relations contribute in making people, who are already at the lowest level of society, the main victims of climate changes. The fact that poor, rural women are the victims even in other changes within the ecological systems is showed by Rossi and Lambrou in their book “Gender and Equity Issues in Liquid Biofuels Production: Minimizing the Risks to Maximize the Opportunities” (2008). It highlights gender aspects in the production of liquid bio-fuels in developing countries. The authors bring up two side of the cultivation of bio fuels; both the socio-economic benefits as well as the risks associated with the risks of replacing local crops with large scale mono-cropping in the production of liquid biofuels, and that these risks often affect women harder than men. They explain this through the socially constructed gender-differentiated access to and control of land and other productive assets, as well as different levels of participation in decision-making and socioeconomic activities. Other important factors at work are that men and women have different opportunities and conditions for employment, which also applies when it comes to being granted bank loans. The authors finally point out that though women are more vulnerable for large changes in the agricultural sector, this liability has its roots in gender roles and socially constructed biases. Like my study, Rossi and Lambrou treat the issue of gendered-differentiated risks (and benefits) and why men and women are affected differently by the replacement of traditional, local crops to large scale cultivated mono crops.

3.0

The Study Area

3.1 The United Republic of Tanzania

The united republic of Tanzania measures 945 000 km² and is situated in East Africa. 1886 the nation, then known as Tanganyika, became colonized by German settlers; a command which in 1922 passed to England. Tanganyika became independent from British occupation 1961, and was followed by the independence of Zanzibar two years later. The following year Tanganyika and Zanzibar united and formed the United Republic of Tanzania with Julius Nyerere as leader of the new country. In 1967 the government drove through the Arusha Declaration, which implied that Tanzania officially became characterized by socialism, equality, and self-sufficiency. This led inter alia to that all of the agriculture in the country became nationalized. Twenty years later, increased dissatisfaction among the people and within the party resulted in the departure of Nyerere and also in several liberalization reforms of the country. The social sector in Tanzania is however still predominantly state-controlled, and the largest party still is the Nyerere-created Chama Cha Mapinduzi (The Revolutionary State Party). CCM ruled the country as a one-party state from the independence from Britain in 1961 until 1992, when more parties were allowed to exist besides the CCM, and in 1995 the first democratic multiparty elections were held (Askew 2003).

According to the national registration, the population of Tanzania in 2008 was estimated to 40.2 million, with a natural population growth of 2,3 per cent a year. There is a considerable scattering of the population over the country, with densely populated areas around the slopes of Kilimanjaro and around Lake Malawi, while the more arid areas are sparsely populated. The nation is divided into twenty-six regions, each of which consists of a number of districts, which are divided into smaller administrative entities. These are divided into areas classified as urban, rural or mixed (Askew 2003). Tanzania has a tropical savannah- and steppe-climate in the high plateaus, which means that the temperature differs highly in different parts of the country. Although only ten per cent of the land in Tanzania is being farmed, eighty-two per cent of the economically active population earns their living from agriculture. The main cash crops are coffee, cotton, cloves, tobacco, tea, cashew nuts and sisal. The main food crops are maize, cassava, millet, rice, wheat and bananas (Kavishe unpubl.). Depending on rainfall fluctuations food production fell during the late 1980s greatly from the good growing seasons 1985-87. Similarly, the country was hit hard by droughts and floods in the mid-1990s, and in later parts of the 2000s (Askew 2003). The Tanzanian climate is characterized by two periods of rain, between which the dry periods appear. The long rain occurs during mid-March to mid-May and the short rain falls from November or December to early January. During the long rain the fall is often heavy and constant, while the rainfall during the short period usually consists of shorter bursts that appear during the evenings and nights (Schultz 1971).

3.2 Gendered Structures and Traditions in Tanzania

Tanzania is a nation with a widespread poverty and with a low education rate among the inhabitants. Through the Constitution, discrimination based on nationality, tribe, origin, political affiliation, color, or religion is prohibited. Discrimination based on sex, age, or disability is not prohibited specifically by law but is downcast publicly in official statements. Traditional customs that discriminate as well as subordinate women remain strong in both urban and rural areas. The gendered discrimination is however most significant in rural areas, where women are relegated to farming and raising children, and have almost no opportunity for waged employment, as custom and tradition often hinder women from owning land and take bank-loans (Mukangara 1997).

When it comes to issues concerning gender, the main part of the society remains traditional, and discriminations and violence towards women is common. According to the Marriage Act of 1971, spousal abuse is not prohibited. Women may be punished by their husbands for not bearing children and there is no law against intermarital rape and wife beating occurs at all levels of society (Mukangara 1997). A married woman is considered to be the property of her husband, with whom he can do with as he pleases. An unmarried woman, on the other hand, is free from a husband's potential abuse, but she is without the higher social status that a married woman enjoys, and she will probably have a hard time in supporting herself and her possible children. Because of the social rejection against unmarried women, the vast majority of adult Tanzanian females are married, and the greater parts of unmarried women are widows. But life as a widow is harsh, because of the systematic discrimination in terms of inheritance and ownership of property. A woman in Tanzania on average gives birth to 5, 5 children, and by tradition bears the sole responsibility for raising and feeding them (Askew 2003). Strong traditional norms still divide labor along gender lines which for instance means that women often work up to twice as many hours compared to men and the rate of girls' enrollment in school is lower than that of boys. 18 per cent of all adult females are genitally mutilated, and abortion is an illegal act, even when the girl is underage or has become pregnant through rape (Mukangara 1997).

The number of female-households has risen in Tanzania during the last decades, and most of them are positioned in the poorer sections of the society (Otsyina & Rosenberg 1999). Studies made by the FAO⁵ have shown that the women in female-headed households tend to be less educated than their male counterparts. They also generally possess fewer acres of land to work, and a lower economical capital than households headed by men. This shortage of resources often results in that women are forced to make adjustments in their cropping-patterns and farming-systems, adjustments that often lead to a decreasing yield and even shifts towards less nutritious crops. Not unexpectedly, these households often suffer from malnutrition and food insecurity (Otsyina & Rosenberg 1999).

⁵ FAO is The United Nations organization for food and agriculture.

3.3 The District of Babati

Babati district is the capital of Manyara region, and divided into Babati rural and Babati town. The district has an amount of 60 500 private households (2006), whereof ten per cent is estimated to be female-headed (interview with Mshana 24-02-10). Babati is situated on an altitude range from 950- 2450 meters above sea level. Most of the soils in the area are of volcanic origin and varies from sand-loam to clay alluvial soils. Because of the high proportion of minerals and organic matter, the soil is well suited for cultivation. The East African rift passes partly through the district, which has characterized the natural appearance through numerous undulating hills and mountains as well as valleys and lakes. Babati is divided into five agro-ecological zones with varying soils and somewhat different conditions of climate. Agriculture constitutes the main part of the district's economy. According to figures from 2002, seventy-five per cent of the labor force was employed within the agricultural sector. Main food crops that are grown are maize, beans, millet, cassava, paddy, potatoes and fruits. In addition to crops grown for consumption by the household and sold on the market are also grown pure cash crops, such as pigeon peas, coffee, bananas, wheat and sunflowers (Kavishe unpubl.). The farmers in Babati have two cultivating seasons, one in correlation with the arrival of the short rain, in November-December, and the other occurs when the long rain have subsided, sometimes in June. Most of the peasants cultivate in an inter-cropping system, where different kinds of beans and peas are inter-cropped with either maize or sorghum (Loiske 1995).

4.0

Methodology

4.1 Scientific Approach: Social Constructivism

I use a social constructivist philosophy in regard to the gender issues in my topic. Social constructivism implies that perceptions of reality always are social produced creations of the interaction between human and collective action (Wenneberg 2001). An example of this is the concept of gender. From a social constructionist perspective, men and women exists as biological sexes, but that femininity and masculinity are socially created categories that have nothing to do with biology. Moreover, the paradigm of social constructivism searches to open up deep-seated beliefs about the natural essence of things and phenomena such as “nature”, “man” and “woman” (Wenneberg 2001). Social constructivism has been used in various environmental debates in order to clarify the nature is a human concept created out of human perspectives and interpretations of what nature is and contains. In this way, nature is independent of mankind, while man is still in the dependent's relationship to nature. In the context of the current climate change-discourse one can say that we understand climate change as a problem per se only when we are directly and negatively affected by it. Not until we recognize it as an environmental *problem* we take action against it. Would we not apprehend the climate change as a something negative, it still would exist, but without the anthropogenic label "environmental problem". Therefore the concept of “climate change” is socially constructed and highly abstract in its existence.

4.2 Methods

This is a study based on an adductive approach, which involves a combination of a deductive and an inductive implication (Danermark et al 2003). Deductive conclusions means a logical follow-up from already given preferences from earlier studies, and are thus seldom contributing with any new knowledge to the field of research. The inductive approach is, on the other hand, often linked with false conclusions (Danermark et al 2003). An adductive approach combines these two approaches into a more complex way of approaching the field. One of the characteristics of the adductive technique is the aim to recontextualize a special phenomenon and study it through a certain pattern, in order to get new perspective of the thing in question. In my study I combine existing theories with empirical observations from my case study in Babati district. Together they construct a picture of what might be the consequences of climate change, in a gender perspective.⁶ As the purpose of this study is to understand how rural women in developing countries are affected by extreme weather (and if

⁶ Deduction refers to collecting information from second hand sources, such as existing studies and theories. Induction, on the other hand, refers first hand empiric studies, where the scientist herself is an observant on the field of interest. On the basis of these observations general conclusions are formulated, which are presumed to be applicable in similar contexts.

it is possible to link that to future and present changes and variations in the climate), I wanted to come in contact with female farmers around the district. The information I sought was how the women considered themselves to have been affected by the dry season in 2009, and how they coped with the consequences of the drought. In order to get the information that I needed, I asked questions that compared the year of interest with a year that is considered “normal” in terms of aridity. I also asked direct questions about direct consequences of drought considering aspects such as reduced income, failing to send their children to school and increased working hours. I chose to make all my informants anonymous, spare the officials. These because I wanted them to feel secure in that their words to me would not, for any reason, become tracked back to them.

I could have used other methods in the performance of my interview-study. For instance, I could have distributed surveys to farmers in different villages within the district, and that might have given me an extensive picture of the circumstances. The negative sides of the usage of surveys within the framework of my study with all its limitations and boundaries were however predominant in this case; aspects such as linguistic misunderstandings, illiterate informants and the risk of not recovering enough answered questionnaires in order to perform a scientifically defensible analysis on them were too important to ignore. Another option could have been to perform in-depth interviews with follow-up on a small number of informants. This might have given me a greater insight into individuals' perception about the drought and the consequences of this, but it had not been able to give me a broader pattern of the district's female farmers in general felt that the situation.

4.3 RRA and the Technique of Semi-Structured Interviewing

RRA (Rapid Rural Appraisal) is a method to conduct fieldwork in developing countries. McCracken et al (1988) writes about the importance of the diversity in the analysis which is pursued through the use of several sources in the gathering of information, an approach called triangulating. This is reflected in the philosophy of RRA, which contains several techniques to gather information, of which I employ two, namely: second hand data and semi structured interviewing.

Semi-structured interviews generally mean that the interviewer has a set of themes to be explored under the interview, and usually the same questions are asked to all the informants. The questions should have an open response option, which gives the informants an equivalent chance to express their view on a certain question. This often results in the rise of new questions under the interview session, as a result of what the informants answer. Semi-structured interviewing implies informal, guided interviews that are built up by a few predetermined themes or general questions. During the interview, new questions will arise, responding to the answers given by the informant. An important aspect of this interview technique is that the informant is not apprehending the situation as an interrogation. The informant should be placed at the same height as the interviewer, and if there are more than

one person that is being interviewed or are interviewing, sitting on a line opposite to one another should be avoided. Instead the session should have the feeling of an open conversation, where information goes both ways. The interviewer is there to learn and must have an open mind and a respectful manner, and be careful not to submit the informant false expectations of what the outcome of the interview may mean, in terms of change of the interviewees. The case study includes interviews with nine female farmers, and the interviews lasted between 20-35 minutes.

4.4 Case Study in Babati District through Semi-Structured Interviews

My case study has a main focus on middle-class women farmers in Babati district, where I have conducted a qualitative case study, with semi-structured interviews. It involves interviews both with women living in female- and in male-headed households, a choice I made in order to see whether the answers differed between the different household-constellations. My informants (spare the officials) were all small scale farmers, each one in possession of one to seven acres of land. The land that they cultivated served both as source of income and as food for the members of the household. I was presented to them through my field assistant, who originally is from Babati and thus is familiar with the area. In the main, I interviewed female farmers about their perceptions about drought in 2009. In addition to that, short interviews were conducted with male farmers and with officials within the agricultural sector in Babati.

5.0

Results

5.1 Presentation of the Results

In the case-study, there are three different groups of interviewees; female farmers, male farmers and officers within the agricultural sector in Babati district. All the informants were asked the same base-questions, but in accordance with the methodology of semi-structured-interviewing, the answers from the informant led the interview in a larger extent than my questions did. Since the focus of my case study is female farmers and their perception of the consequences of the drought in 2009, my interviews with them were more comprehensive than the interviews I conducted with officers and with male farmers, both in length and in number of question asked. The interviews with the women are consequently longer, and I want to emphasize that this is a conscious choice on my part.⁷ My case study involves sixteen interviews of which nine consist of female farmers, two of officers working in the district and five of male farmers. All in all I visited five different villages (Mamire, Komoto, Nakwa, Wa'ang Warai and Galapo), all situated in the district of Babati.

5.2 Interviews with Female Farmers

5.2.1 Interview I: Female Farmer Living in Mamire Village

Civil status:	Widow	Amount of acres:	2
Age:	55	Number of children:	6

This farmer declared that the government sometimes in harsh times helps households in certain villages by selling them seeds below the market prices. She said that the drought in 2009 resulted in a minimal yield, she usually gets fifteen bags of maize and pigeon peas from her acres, but in 2009 she only got two bags. She considers the mother in the household to be the one that suffers most of extreme weather, since it is her responsibility to send the children to school and to provide the family with food. In times of scarcity, the mother is the first one in the household with no food on her plate. This informant had no specific thought about global warming, she said that she takes one year at the time and prays that the next will be good. When I asked her about the pros and cons in living with a husband, she held that men often are more of a burden than an asset for their wives. On one hand, to have a husband and to live in a male headed households often is equal with higher social status and more alternatives for incomes (petty business), but in her experience, “*men only drinks up the family money and are violent and lazy*” (quotation from the informant in question).

⁷ To see the different question asked to the different groups, see interview-guide in annex 9.1.

5.2.2 Interview II: Female Farmer Living in Komoto Village

Civil status:	Widow	Amount of acres:	7
Age:	57	Number of children:	6

During the drought 2009 this woman had the choice to turn to her petty business, selling clothes and food that she cooked at her mama lische⁸-business. She expressed a strong concern about the future, but she had not given the concept of “climate change” any thoughts. She articulated a spiritual linkage between the weather and the cause of it, according to her the weather is according to the will of God, whatever it might be. This she strongly opposed being questioned.

5.2.3 Interview III: Female Farmer Living in Nakwa Village

Civil status:	Widow	Amount of acres:	1
Age:	42	Number of children:	5

This informant perceived the drought during autumn 2009 as worse than usual, out of ten bags that she said herself to be able to harvest in a good year; she did not even get one full in 2009. That resulted in that her children could not go to school, and that she had to ask the neighbors for help. On the side of the farming she had a mama lische-business, although she claimed that the money she gets from there hardly covers for her costs. Nevertheless, she expressed an reluctance towards living with a man, since they, in her opinion, only drink alcohol and are violent.

5.2.4 Interview IV: Female Farmer Living in Nakwa Village

Civil status:	Married	Amount of acres:	8
Age:	32	Number of children:	4

Because of the drought, this farmer was not able to send her children to school during the later period of 2009. Instead the children had to at stay home, helping her with the household. She said it to be preferable to live in a male headed household; still she considered that men do not provide much for the family. She said that the husband will always be to some help on the field, and more important, having husbands means higher social status for the woman. According to her, women have longer working hours; she claimed that women work approximately five hours more than the men on the field. In addition to that, women are responsible for all the work within and around the household.

⁸ Mama Lishes are places where (predominately) women cook and sell cheap food. This often works as a petty business on side of farming.

She did not have any special thoughts about global warming, but expressed a constant worry for what the future might bring. She experienced that the periods of extreme weathers (floods and droughts) have become more frequently and severe comparing to a couple of decades ago. Especially 2009 was a very bad year; she said that she only got two bags of maize instead of twenty, which she gets in a normal year. She said that in hard times, men have the privilege to be able to go elsewhere in the search of work, while women are stuck with the children and the household. She said that even if she would not have children, she still would not be free just to go away and search for work like men can, because of gendered taboos.

5.2.5 Interview V: Female Farmer Living in Nakwa Village

Civil status:	Married	Amount of acres:	2
Age:	28	Number of children:	6

This woman perceived the drought during the autumn 2009 as worse than usual. Her household only has two acres, which implies that her yield even in a normal year is relatively small. The drought in 2009 resulted in a non existing income. She had to go to the neighboring households and ask them for food, because she could not feed her children. She stated that her husband often is away from home, and when I ask about his contribution to the household in times of need, she does not answer. Despite of that, she claims to prefer the life with a man to one without one. She says that even though her husband does not contribute to the household in terms of money or food, he gives her the status as a married woman. She said that she had not really thought about climate change, but constantly worried about the length and serenity of forthcoming period of drought.

5.2.6 Interview VI: Group of Four Female Farmers Living in Waáng Wuarai Village:

Civil status:	Married	Amount of acres:	4, 7, 9, 6
Age:	33, 67, 58, 40	Number of children:	2, 4, 6, 3

Every one of these women lived in male headed households. They all declared that women are more economically gifted and also tends to work harder and longer than their men. Still they said that they preferred having a husband over the alternative of living by themselves, because “*a husband tells the wife what to do*” (quotation from one of the women in the group). They all perceived that extreme weathers hit women harder than men, because women are tied to the household, to the cattle, and to the children. They thought that men often are more free as individuals, to come and go as they like, and also, men have more options to turn to if the yield should fail. As an example of this one of the women said that men more easily (than women) can get approval for bank loans to invest in other businesses or a more sustainable agriculture.

Three of the women considered that the periods of floods and drought have become increasingly severe during the last ten to fifteen years, but the fourth woman did not agree to

this. According to her, the weather changes from year to year, without any certain pattern for the better or worse. They all agreed on the severity of the drought during the autumn 2009. It hit them all hard, and they considered themselves lucky to have had other business to turn to (they all had mama lishe-business) on the side of the farming. They also claim that they were fortunate to live in households headed by men as providers, because “*men can work everywhere, and have many petty-businesses on the side. Women cannot do that.*” (Quotation from one of the women in the group).

5.3 Interviews with Male Farmers

5.3.1 Interview VII: Male farmer in Mamire village

The farmer in question said that drought during the autumn of 2009 was bad, but that the dry seasons always are hard to get through, and that this drought did not differ from earlier ones. He sometimes thinks about climate change and how it will affect him and his family if the weather changes.

5.3.2 Interview VIII: Male farmer in Nakwa village

This male farmer claimed that the drought of 2009 did not differ from any other droughts. When I asked him about extreme weathers he referenced to the drought that hit the district 1974, which he said had been severe. But apart from that he did not seem to think that one year had differed significantly from another weather-wise. In terms of climate change, he said to be worried about what the future may bring considering variations in weather. He sometimes discuss the topics with friends and acquaintances, but he then added that he has much else to think about, and that contemplating the climate change hardly ranks high on his list.

5.3.3 Interview IX: Male farmer in Komoto village

At first, this man did not comprehend what I referred to when I asked about the drought in 2009. However, when he noticed my surprise over this, he suddenly changed his mind, and alleged that the drought in 2009 had been hard, worse than what is perceived as “normal”. As for climate changes he said that he have heard about it, but that it does not really bothers him.

5.3.4 Interview X: Male farmer in Galapo village

This male farmer claimed that the secret in order not to lose one’s crops to drought is growing drought-resistant crops, like maize and millet. That is what he is growing, and was growing in

2009, and he managed through the dry-season, without starvation. He said that the autumn of 2009 indeed was dry, but that he has lived through worse. When it comes to climate change, he claimed himself to be skeptical, and that he lays more belief in weather fluctuations than in a changing climate.

5.4 Interviews with Officials

5.4.1 Interview XI: Mr. Mshana, Officer of Conservation Agriculture in Mamire Ward

According to Mr. Mshana, the drought in 2009 was like any other drought in any other year. However, he emphasized that just because something happens annually (like a dry-season), it does not hit the affected ones more lightly. He held that the ones that are hardest hit by extreme weathers are women, and it is common that, during periods of severe droughts, the man of the household leaves the village to look for alternative ways of income. The woman of the household suddenly finds herself with the full responsibility for the household, which means that she has to earn money for food and for the children's school on her own. This often leads to starvation and inability to let the children go to school. However, it is common for neighbors help each other out in situations like these. Mr. Mshana held that there is a significant imbalance between the genders within the agricultural sector which implies that women have longer and harder working hours (since she often works with the hand-hoe as only tool) and also is responsible for the work within and around the household, as well as for the children.

5.4.2 Interview XII: Mr. Mao, Previous Manager of the Farmer Training Center in Wa'ang Warai

According to Mr. Mao, the drought in 2009 hit the district of Babati hard and he stressed that it was the females of the households that got most affected by this through got longer working hours and less to feed the family. In Many households it resulted in that the daughters had to stay home from school in order to help their mothers supplying the household with necessary means. Mr. Mao held that all the farmers are worried about climate changes and which effect it might have on the future, and he added that most of the farmers still concern more about the next coming year than what might happen in five to ten years.

5.5 Interpretation and Analysis

I found it interesting that the women answered the question about preferences of civil status corresponding to which type of household they lived in. All the women living in female headed households were widows, and they all clarified their satisfaction with that. The women living in male headed households explained their preference with the present situation by saying that life as a married woman provides a higher social status. One married woman held that all her actions were under the command of a man, even if he might not really have *made* the command. But just by being married her actions achieve some legitimacy.

All of my female informants claimed men to be non-proficient providers for the family. A general opinion among the women was that the function of a husband is less about being a family-provider, than as a status heightener for the household. Considering farm duties and household tasks all the informants, women as men, held that women have longer working hours and respond for the household duties. On field women generally response for weeding and working with hand-hoes, while if there is a tractor, it is predominantly driven by a man.⁹ In the households that owned cattle the workload that the animals implied were shared on both sexes. Considering the drought in 2009 all the women were united in the opinion that it had been an unusually harsh period. Consequently it really surprised me that all of the male farmers, spare one, had not experienced the drought as worse than usual. Thoughts about climate changes also varied between the sexes. When it comes to direct consequences of extreme weathers, women seemed to be more bound to the household than the men. Two of the women had on one occasion been left by their husband during a period of drought (one of which was in 2009).

While the women all referenced to a higher power when it came to thoughts about the future, the men expressed their awareness of the ongoing climate-debate and had a more scientific approach to the issue. However, one female farmer in Wa'ang Warai said something that I considered as quite striking;

Some years it is dry and some years it is more humid. Some years are bad, some years are better. But the dry periods have become longer and drier. Not even the most drought-resistant crops manage through the really dry periods anymore. Before, we could always depend on crops like millet and maize, but as the drought was last year, not even those crops survived.

I asked about the alternative of governmental help in times of need, and found out that some households had got governmental help (in form of a couple of chickens and discount on seeds). It is the village council that applies for governmental help, and if it does not, the household of the villages will get no such help. Some of the farmers said that they sometimes had turned to neighbors for help, but no one of the farmers was organized in a more structured

⁹ Since nearly all my informants composed of the middle-class, they all could afford to hire tractors almost every year. The work-assignments may have been different if I asked farmers of lower class.

way. All of the farmers I interviewed had at least three children, and all of the children had gone (or still went) to primary school. More boys than girls were sent to secondary school, even if neither the female nor the male farmers considered themselves to discriminate the education of the girls.¹⁰

In the reading and understanding of this study, it is essential to understand that I worked in the field for a limited period of time. If I have had the opportunity to spend more hours in the field, the results of my study may have turned out differently. For example it was my aim to come in contact with the poorest female farmers, but as a stranger in a village you most likely will not be introduced to the poorest layer of society (Lindberg 1996). This resulted in that all of the farmers that were interviewed, save one, were somewhere on the middle-class-scale. The one exception was a woman who owned merely one acre, and had 4 children, of whom none was in school. According to the results of my interviews, women in female-headed households are most deprived. In average they possess smaller amounts of acres than married women, and they alone carry the entire responsibility of the household themselves. On the other hand, married women seem to consider their spouses more as an extra burden than as an asset.

I conducted only one interview-session with each informant, which made it hard to work up a relationship of understanding and confidence between me and the informant. Nevertheless I got some interesting answers that colored and shaped how I chose to go on with my case study. It is also imperative to understand that this was my first time as an interviewer, which clearly made me execute some classic beginner's mistakes. For example I might have given away what I wanted them to answer with of course colored their responses. One example of this is the male farmer I interviewed in Komoto, who at first did not think much of the previous period of drought and then, all of a sudden drastically changed his mind. He might have appreciated my reaction to his answer, which could have led him to change it.

I learned that some of the questions (for example those concerning the preference to live with or without a husband) somewhat susceptible. Generally women living in a male-headed household expressed their preference to live with a male, and women living without a husband considered themselves as better off without a husband.

¹⁰ Primary school is free of charge, even if the parents must pay for uniforms and school supplies. Starting with secondary school, there is an annual fee for the education.

6.0

Discussion

*Because in the end of it all, environmental matters is about surviving matters.
And that is really all that matters.*

(Masika 2002 p. 17)

6.1 Gendered Perceptions and Conditions

As implied by my interview study, the female informants were found to be more alert than the male ones in observing changes in the surrounding ecology and according to Momsen, this is a globally occurred phenomenon (Momsen 2004). Further previous research has demonstrated the fact that women in general spend more time on the field, and often in vastly earth-bound procedures (such as weeding and sowing), why they are the first to recognize differences in the ecological systems. Since they are the ones responsible for providing food for the household, they often are the first to notice that the yield has declined in relation to what is considered as normal. When I asked my informants about the drought in 2009, all the women proclaimed its severity, while most of the men held that the autumn 2009 indeed had been dry, but not drier than usual.¹¹ To some extent these gender-divided answers can depend on different ways of expressing oneself that I did not comprehend. But since the theory emphasizes on how gender-structures makes men and women apprehend environmental phenomena differently, I do believe the different answers to be more a product of how constructed gender roles generates in different ways of apprehend things, than a gendered-differentiated way of communication. Still, it is interesting how even though almost all the male informants answered that they had not experienced the dry period of 2009 as noticeably worse than usual, the general perception was still that the drought was worse, especially in some areas, than what can be considered normal.

The theory of feminist political ecology claims that women are systematically oppressed through an uneven distribution of natural resources (Rocheleau et al et al 1996). It is a Marxist way of connecting power with the possession of the means of production (whatever might be the product; wealth, food, status or gear), and it certainly correlates with the information I got from my interviewees. Men generally have the advantage when it comes to be granted bank-loans, owning land and start up businesses, and they often are more free as individuals.¹² In relation to that, women must have a husband to be able to benefit from these resources, even if having a man certainly does not secure the taking-part of these benefits. Some of my

¹¹ According to sources including Famine Early Warning Systems Network (2010), Wakil (2009) and Ubwani 2009), the autumn in 2009 was drier than what is considered as usual or normal (even though it differed from one area to one other).

¹² An assumption made by several of my female interviewees and motivated by men's more individualistic relation to the family. While the mother is responsible for the household per se, as well as the children (and to some extent even her husband), some of my informant claimed that the husband chiefly is responsible for himself.

informants expressed a preference to the life without a husband, as it made them free to take their own decisions and manage its monetary in the way they regarded as best.

Masika (2002) question the widely-held opinion that the vulnerability of women inflates with male migration, and holds that it rather, in some instances, can give women a greater decision-making power as well as new livelihood possibilities. Still, the most marginalized household that I visited were those headed by women.

6.2 Female Farmers and Local Knowledge

Initially, my aim with the field-study was to come in contact with the poorest women of the different villages that I visited. However, this proved to be difficult, simply because the most deprived people of the village did not constitute something that any village council (whom often were those helping to find suitable informants in the village) would like to figure as the public face of the village. As written by Lindberg, the poorest people in a society is often considered as being reactionary and responsible for their own situation, hence they are not considered as able to keep anything of importance (Lindberg 1996). My limited time in the field naturally also affect the difficulty of reaching these people; had I had more time to get to know people in the different villages, I probably sooner or later would have come in contact with the most marginalized part of the society. Instead, I was introduced to farmers which constituted something of a middle class. Still, many of the women that I interviewed who lived in female-headed households were living on the edge to poverty, with some owning as few as one or two acres of land. All the farmers I visited engaged in small-scale farming cultivating both food and cash crops. Not one of the female farmers that I interviewed uses either fertilizers or pesticides on their crops, and only one of them uses other tools than hand-hoes and cattle as means of help on the field.¹³ It may very well be the case that this way of cultivating the land is not done with consideration for the environment as much as it is the most economically viable option obtainable. Perhaps these women, if having the economical means, would use of less environmentally friendly facilities. There is much that speaks for this.¹⁴ But would their way of farming, however be encouraged, and paid more attention, they would have the chance to develop it, get it to become even more sustainable and also more profitable. The value of this kind of knowledge, and the importance in the recognition of it, is an underlined aspect within feminist political ecology. But it is also important to understand that even local knowledge is divided, depending on class, gender and other life-controlling conditions. For instance, cause to the separation and disparate treatment on a gendered basis, boys and girls grow up creating separated kinds of knowledge and ways of thinking and preceding the world around them (Weedon 1999). The dilemma is that the kind of local

¹³ One of the female peasants owned seven hectares, and said that she during some periods was able to afford to rent a tractor.

¹⁴ See for example Rossi & Lambrou 2008.

knowledge that often is recognized is the one of the most fortunate class in a society; the privileged men. Because of this gendered-differentiated knowledge men and women often have different kinds of solutions for different problems. This also applies when it comes to addressing the matter of climate change; throughout the world men favor technical solutions in the efforts to curb the changes, while women often call for a restructuring of unsustainable system (Rocheleau et al 1996). This, of course, is generally speaking and with a ground in traditional structures and deep gender gaps, like the more technology-based solutions to environmental degradation and climate change is generally endorsed by the world's male population. The dilemma, as Masika (2002) claim, is that the continuous focus on technical solutions to problems due to climate change has neglected the social and political aspects of finding appropriate solutions. The people that will be, and are, mainly affected by climate change cannot afford to put money into technical research or on high-tech solutions. Therefore the main-solutions need to be brought by politically and socially, not technically. One important part of reaching such a solution is recognizing the resources of existing knowledge as well as the empowerment of rural women (Rossi & Lambrou 2008).

Another aspect of my field-work that is well worth to draw attention to in a view of feminist political ecology, is the fact that several of my female interviewees held their daughters home from school during the drought, in order for them to help their mothers in the struggle of providing for the household. The supposed case of more frequent events of droughts (or floods as the case is foretold to be in Babati district), it could have a devastating effect on the education of the girls living in meager households. The consequences is not only that these girls are left without education; they also fail to benefit from the social society of the school, where they connect with people from outside the household, and through the power of knowledge get a chance to another kind of knowledge than the surroundings of the household and working on the family plot can provide. This already is a significant problem when it comes to gender-issues, and if local weathers grow to be even harsher as a result of climate change, the result will be even more girls out of school, an even greater gendered segregation in labor and power. This can in addition lead to an even higher neglect of female knowledge of sustainability (Moustgaard 2009), and the fact that in relation to men, women in general have more environmental-friendly way of living. For that matter, these characteristics have no biological origin, but are a typical for people living in poverty and oppression in general. Still, the overrepresented group that possesses this kind of knowledge consists of women, and it is a knowledge that should be well regarded and employed, globally as well as locally (Masika 2002). However, this exchange of knowledge must work in both ways; the women need to be educated in the effects of climate change as well as in varying weather, so that they can be better prepared for both of the alternatives. Since poor women in developing countries are included in the group that most likely will suffer most from the effects of a changed climate, information on how to adapt to these changes can be crucial for them (Rathgeber 2009).

6.3 Climate Change on the International Agenda

“... the climate negotiations could be seen as a parody of an unequal world economy, in which men, and the bigger nations, get to define the basis on which they participate and contribute to the reduction of growing environmental problems, while women, and the smaller and poorer countries, look in from the outside, with virtually no power to change or influence the scope of the discussions.”

(Masika 2002 p.10)

To present date, gender-issues have not been considered in wider international climate change discourse and initiatives. When it comes to managing gender issues in the international climate change discourse, the focus has been on mitigation initiatives, with less or no attention on adaptation strategies (Moustgaard 2009). Just through a simple word-search of the UNFCCC and the Kyoto protocol, the two most important protocols when it comes to treaties concerning global efforts to combat climate change, it is revealed that words as “gender” and “woman” are not mentioned in either one of them (Skutsch 2002).

Gendered differences determine gender roles, behavior, workplace, community and responsibilities within the household and concerning the children. It also determines the ability of individuals to influence or control events and outcomes that affects them. These differentiated power relations and different access to resources are crucial to take into the understanding of why men and women are affected differently of a changed climate and ecosystem (Momsen 2004). That is not to say that some are more or less immune against climate effects, rather that some will be more affected than others. Poor people, especially them living in rural areas, are more vulnerable to these changes, and the majority of the world’s poorest are women (Masika 2002). In considering levels of vulnerability, it is always important to scrutinize the reasons for the certain individual’s and group’s vulnerability against something. In an intersectional perspective, an environmental problem easily becomes an issue with power-relations. Certain people, or certain groups, are more vulnerable against, for instance, a changing climate, and the reasons for their vulnerability often are multidimensional. For instance, a lack of social status and the remoteness of some settlements mean that some people will not achieve adequate warnings of impending disasters (Masika 2002). A wealthy man living in urban areas can also get personally affected by ecological issues, but he most likely will have some kind of safety-net to turn to, because of his sex, his financial status and because he lives in a city and not in a isolated village.

In case of a changing climate, or even more frequent weather fluctuations, all inhabitants on Earth will to some extent be affected. However, as already stressed in this essay, some will most likely find themselves more exposed to these changes than others. According to a report from the UN Millennium Development Goals (MDG), women and children are estimated to have a fourteen timer bigger risk than men to die in natural disasters (Parikh 2009). In parts of Aches in Indonesia more than three quarters of the deceased during the Tsunami in 2004 were women and girls, which were explained by the facts that females are not taught how to swim

and are not encouraged to run. Clothing-taboos and culturally induced inability to leave home without the company of a male relative may be other negative aspects for women in need of rapid escape (Masika 2002). Furthermore, African agriculture is one of the sectors in the world that is most vulnerable and at the same time most exposed to changes in the global temperature (Parry et al 2007). In this sector, women account for almost eighty per cent of the work-load. In addition, a disproportionately large number of women work within the informal sector, which includes the jobs that are often hardest hit and slowest to recover after a disaster (Janneh et al 2009).

7.0

Conclusions and Suggestions

The outcome of my study shows a pattern where some groups of society are less resilient than others when it comes to enduring natural catastrophes and ecological changes. However it must be mentioned that my number of informants is small, and my time in field was short. Therefore I cannot draw any general conclusions, but nevertheless my study shows some similar features between the local and global level. I found out that the gendered patterns that showed in the aftermaths of the drought could be connected to a pandemic structure where poor, rural women are those that suffer most from ecological catastrophes and changed patterns in weathers and/or climate. Thus, the social impacts that the drought had on the inhabitants of Babati in general, and its female inhabitants maintaining on agricultural in particular, can work as a general example on how people that already constitute a marginalized group in society, are the least resilient when it comes to endure natural catastrophes. This is often due to certain aspects such as poverty, non-existent or poor safety-net, to be a part of an oppressed and subordinate social group, and that one's village is located at a remote location where to the information about the situation may not reach. My study my field study confirms this by showing how women in the woman-headed households were the group that seemed to have been hardest hit by the interviewees.

An important part in compiling the results of one's study is to reflect on the liability of the employed sources. In this, one must be aware that NGO's very well might be beautifying their work and the own organization in their reports. Not everything in the information that they resent concerning their progress in a certain issue or the working-process in a certain area might correspond completely with reality, or with how the people they worked with experienced it. However, this account for every source I have used in this study. As mentioned in the beginning, the objectivity of a person is tightly linked with how she looks at and perceives the world around her, and there are as many interpretations of the world as there are people. The officers of agriculture that I interviewed might have chosen to tell me only the parts that are beneficial for them and their work while holding in on other, less flattering, information. The farmers that I meet were interviewed through an interpreter, which means a plethora of potential problems. For instance, the interpreter might have misunderstood my question, or simply not liked them, which would mean that the informants were given quite different questions than what was intended. The interpreter might also have shortened or modified the responses from the informants, in order for them to fit my purpose. When it comes to the farmers, some of them might have misunderstood my questions, or for some reason might not have wanted to answer them truthfully. Therefore, it is important to treat the results with a pinch of salt and to analyze them with each other, to try to get the most equitable picture of reality as possible. As already declared, this study does not offer a holistic approach of how the gender-equality in Babati was affected by the drought, and what this might mean in the long run. My recommendations for further research are therefore to spend a longer period of field studies in the field (than I did), and to include more villages, situated on different ecological zones, in order to examine if some villages got harder affected than others and then compare whether the social implications of the drought in one village was different in another.

My final words are by no means unique or created only due to this study. It consists of something that for many has become a mantra, but still need to be focused on and highlighted. I hold that if existing beliefs, values and structures around gender-affinities would loosen up and become more equal, it would in all probability be very much in favor not only for the humanity, but for the environment we are surrounded by and living in. Because in the end we are all just creatures in the same system, and only with an understanding of this and only by looking through glasses with a holistic view can we make this total interconnection of all the worlds' organisms and ecosystems into a sustainable whole.

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9.0

Appendix

9.1 Appendix 1: Interview Guides

9.1.1 Interview-Guide: Female farmers

Structured part:

Name, age, civil status (married/not married), children (if so, the amount), education, education of the children, amounts of acres, types of crops cultivated (food crops, cash crops or both), main income (agriculture or side business), means of help (tractors, employees, neighbors, government, NGO's etc.)

Semi-structured (thematic) part:

Theme 1: Working Assignments

1, What is your (/your husband's) main assignment in the agriculture/household?

Working hours, if some assignments are gendered,

Theme 2 Civil status:

2, Do you think it is preferable for a woman to live with or without a husband?

Why, what does the options apply, what does it mean to live with respective without a husband

Theme 2: The drought

3, Do you consider the drought that occurred last autumn (2009) as more severe than usual?

(If yes) In what way were you affected? According to you, who in the household suffers most in periods of severe droughts? Do times like that affect men and women differently?

(If no) Have you heard of anybody else that perceived it as more harsh than normal?

(If no, leave the theme)

4, Do you have any thought about global warming?

(If yes) What kind of anxieties, what do you think will happened, how do you see yourself and your family in this context?

(If no) Have you heard about the concept before?

9.1.3 Interview-Guide: Male farmers

Structured part:

Name, age, civil status (married/unmarried), (amount of) children, (amount of) cattle, amount of acres, type of crops, education, education of the children

Semi structured (thematic) part:

Theme 1: Working Assignments

1, What is your (/your wife's) main assignment in the agriculture/household?

Working hours, if some assignments are gendered etc.

Theme 2: The drought

2, Do you consider the drought that occurred last autumn (2009) as more severe than usual?

(If yes) In what way were you affected? According to you, who in the household suffers most in periods of severe droughts? Do times like that affect men and women differently?

(If no) Have you heard of anybody else that perceived it as more harsh than normal?
(If no, leave the theme)

3, Do you have any thought about global warming?

(If yes) What kind of anxieties, what do you think will happen, how do you see yourself and your family in this context?

(If no) Have you heard about the concept before?

9.1.4 Interview-Guide: Officials in agriculture

Structured part:

Name, work assignment, education

Semi-structured (thematic) part:

Theme 1: the drought

1, Do you consider the drought in 2009 as more severe than usual?

(If yes) in what way, what were its consequences

(If no) why do you think that many people perceive it as more harsh than normal?

2, Do you think that some groups of people gets harder hit by these kinds of currents'?

(if yes) which ones, how and why?

(If no) why do you think that is?

3, Is it possible to get governmental help in these kinds of events?

4, Do you think that it exists anxieties and thoughts concerning global warming in the farming community in Babati?

Theme 2: gender equity

5, How do you consider the question of gender and equity?

Is it a problem within the society? Is it generally better for women to live with or without a husband?

6, Do female working assignments differ from male? Concerning work within the household, different tasks on the field, working hours, wage etc?

<u>Climate Change</u>	<u>Impacts on gender, livelihood, poverty, wellbeing and the MDGs</u>
<p>Forest</p> <p>Degradation of forests</p>	<ul style="list-style-type: none"> - More drudgery for women for fuel and water - Less time for income generating activities - Less time for children education - Reduction of income and due to Non-timber forests Products (NTFPs) - Loss of eco-tourism opportunities.
<p>Food and Agriculture</p> <ul style="list-style-type: none"> - Less yield from crops - Increased food prices - Change in food patterns - Depleting livestock 	<ul style="list-style-type: none"> - Reduced calories intake for women and girl children - Higher food insecurity for women - Less milk/nutrition for children, livelihood
<p>Water</p> <ul style="list-style-type: none"> - Reduction in water availability - More dependence on unsafe water 	<ul style="list-style-type: none"> - Longer distances for fetching water - Impacts on mother and child nutrition
<p>Biodiversity</p> <ul style="list-style-type: none"> - Loss of species (flora and fauna) - Loss of medicinal plants/herbs - Loss of mangroves and corals. - Loss of gene pool. 	<ul style="list-style-type: none"> - Loss of indigenous practices - Loss of livelihood - Reduced income - Increased vulnerability
<p>Health</p> <ul style="list-style-type: none"> - Water borne diseases - Increase of diseases like dengue malaria, etc - Respiratory diseases due to indoor air pollution and other emissions 	<ul style="list-style-type: none"> - Women and children more vulnerable - Infant mortality - Disease sensitivity

Table 1: Gendered impacts on poverty, health and the MDGs¹⁵ (Parikh 2009).

¹⁵ The United Nations Millennium Development Goals: <http://www.un.org/millenniumgoals>