

## Original Article

# Gender Division and Utilization of Natural Resources: A Case Study of Mindu-Tulieni and Makombe Villages In Bagamoyo District, Tanzania

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### ABSTRACT

*This paper explores special aspects of gender and utilization of natural resources in Mindu Tulieni and Makombe villages in Bagamoyo District. A sample of 69 heads of households was randomly selected from the two sample villages. A questionnaire was administered to heads of households and their spouses. Focus group discussions were also conducted in the study villages. Findings have shown that attention to gender differences in property rights can improve natural resources use, environmental sustainability, equity and empowerment of resource users. This study found that policies and approaches are inadequately gendered and particularly omit the gender relationship in management and utilization of natural resources. Although it is difficult to generalize across locality, cultures and resources, it is important to identify peoples' rights to land, trees (forests) and water. Different methods are used in acquiring land and the way land is transmitted from one user to another.*

*This article focuses on gendered decision-making and negotiation over the management of land, forests, livestock and water in Bagamoyo District. Roles of men and women in natural resources use, management and conservation are taken on board. Findings have shown that gender, culture and structure of tribes' constraints the natural resources management. The results suggest that discrimination basing on resource ownership, distribution and utilization should be eliminated. People should be educated through seminars, radios, televisions and newspapers. Special attention should be paid on treating male and female on rational and equal basis.*

**Key words:** Gender, Gender division, Natural resources, Property-right, Maasai, Kwere

### INTRODUCTION

Property rights to resources such as land, water, and trees (forests) play a significant role in governing the patterns of natural resources distribution and conservation as well the welfare of individuals, households and communities who depend on those resources (Meinzen-Dick *et al.* 1997). Property rights include far more than title deeds and other pieces of paper specifying ownership of a defined piece of land or other resource (*ibid*). Property rights encompass a diverse set of tenure rules and other regulations of access to and use of natural and man-made resources. Gender is an important ingredient in defining property rights, property ownership and rational utilization of resources. The resources discussed in this article include land, forests, water and grazing land. Gender refers to the social attributes and opportunities associated with being male or female and the relationships between women and men; and girls and boys, as well as the relations between women and those between men (UN Women, 2001). These attributes, opportunities and relationships are socially constructed and are learned through socialization processes (*ibid*).

Natural resource is a material coming from the Earth and is of value for one reason or another ([http://wiki.answers.com/Q/What\\_is\\_a\\_natural\\_resource#ixzz1jzYLU6Mv](http://wiki.answers.com/Q/What_is_a_natural_resource#ixzz1jzYLU6Mv)). Natural resources refer to all the living and non-living endowment of the earth. However, traditional usage confines the term to naturally occurring resources and systems that are useful to humans, or could be under ordinary technological, economic, social and legal circumstances (Suslick and Machado, undated). Some examples of natural resources are forests, wildlife, land and water, as well as a variety of minerals, metals and ores, salt, coal, and metals/minerals like gold, iron and aluminium (*ibid*). Living things includes grasslands, forests, herds of animals, flocks of birds and fish, to list some. All these are natural resources since are naturally occurring. Wind and sunlight are also natural resources, since no efforts made by man to bring it into existence. Natural resources are the things that Earth provides us for use, but which must be managed to maintain their viability. In general,

some natural resource stocks are renewable by natural or artificial processes while others are non-renewable (Suslick and Machado, undated).

Gender is an important ingredient in assigning roles and responsibilities. Gender roles are learnt and vary across cultures and over time and are therefore amenable to change. In African context, women and men roles are different. The differences exist even from one tribe to another and from one family to the other. Some tribes or culture consider men superior than women. Inheritance and ownership of resources is also based on gender. Women have no say in ownership of resources in some tribes like the Maasai. Maasai society is an interesting tribe to study as a case of total domination of men. The literature on the subject of gender and poverty in Tanzania and elsewhere is dominated by the theory (theories) of patriarchy (Maghimbi and Manda, 1997). Men's ownership and control of both the economy and ideological institutions seem to be absolute in Maasai land. Maasai is a good case for comparing with other societies like Bantu tribes (the Kwere for this case) and it is hoped that other scholars and policy makers will make comparison with other areas after reading this article. However, this article is designed to discern and determine the dynamics of gender against the allocation, ownership and utilization of natural resources.

#### **STATEMENT OF THE PROBLEM**

People have different needs, interests, access and control of resources based on a variety of factors including gender. Various studies have been conducted on gender situation in Tanzania and much effort has been directed towards the alleviation of poverty among women. Some of the efforts made include gender mainstreaming, equal representation of men and women in different political fora, for example, the Beijing conference on women empowerment (The Beijing Platform for Action of 1995), to list some. Rural women depend on the natural environment for their sustenance and health; women are severely affected by environmental degradation and limited access to natural resources (Mikkelsen, 2005). Women are usually disadvantaged regarding ownership of and access to land and to control over the resources around them.

Unfortunately, very little has been done to study the gender and utilization of natural resources at local/village levels. Gender in most countries is a matter of concern since the sexual division of labour exposes only a section of the society to the direct contact with the natural resources. Together with the domestic responsibilities, women are responsible for food production and preparation. They are the ones to confront energy and water problem in the society. Men in most cases engage on income generating activities like bricks and charcoal making in rural areas. Women have a central role in taking care of the family and mostly engage in non income generating activities. Unfortunately, roles of women in some societies including the study villages have never been acknowledged in development programmes. This situation necessitated the conduct of this study. Importance of gender is lacking and remains unknown to the public and other end-users. Thus, this study, therefore, is undertaken to address those problems and make recommendation on addressing the situation.

#### **OBJECTIVES OF THE STUDY**

The general objective of this article is to examine the roles of gender division in natural resources utilization and management. Specifically this article intends to achieve the following objectives:

- i. Identify the roles of gender in natural resources management.
- ii. Examine the system of resources allocation and utilization at local levels.
- iii. Identifying the barriers in accessing natural resources in the study villages.
- iv. Recommending measures to intervene gender differentiation.

#### **RESEARCH QUESTIONS**

- i. What are the roles of gender in natural resources management?
- ii. How resources are allocated and utilized in the study villages?
- iii. What are the hindrances in accessing natural resource in the study villages?
- iv. How can gender differences be removed in the study villages?

#### **SIGNIFICANCE OF THE STUDY**

Women constitute about 52% of the rural population in Tanzania. These are the main food producers (URT, 2006:6) and take care of the family. However, the patriarchy family structure prevalent in many tribes in Tanzania excludes women in land and natural resource ownership, thereby negatively impacting on the planning, implementation and monitoring of development projects. Thus, the alleviation of poverty and sustainable use of natural resources can only be

achieved by giving access and ownership of such resource to women as well, and doing away with chauvinism.

This study aimed at obtaining information on gender and utilization of natural resources in Bagamoyo District and find out ways of correcting gender imbalances and thereby raise the interest of women in participating in projects related to conservation and sustainable use of natural resources. The study findings have guided the formulation of recommendations for improving livelihood of the people in the study areas. The findings are intended to provide a base for policy makers and planners in addressing problems associated with gender in resources allocation, ownership and management. All these contributes to the efforts made by the government, private sectors, NGOs and other stakeholders in fighting against gender discrimination in resource allocation and utilization.

### THE STUDY AREA AND RESEARCH METHODOLOGY

The study was conducted in Mindu-Tulieni and Makombe villages in Bagamoyo District, Coast Region. The Coast Region is among the Tanzania mainland regions which possess natural resources, which contribute significantly to the country's Gross Domestic Product (Coast Region Profile, 2006). Bagamoyo District is endowed with forests, fertile soils, large rivers and the ocean. The rivers provide abundant fresh water for fishing, irrigation, domestic and industrial use. There is also bee-keeping and wildlife. The field survey covered 69 heads of households: 39 households from Mindu Tulieni and 30 from Makombe villages (Table 1). About 31 respondents participated in the focus group discussions (FGDs). Among them 34 males were interviewed and 35 females. The respondents were identified by the use of stratified sampling technique to get groups for males and females. This was followed by random sampling to get the respondents from male and female groups. It was planned to sample 100 respondents/heads of household, the figure which was achieved. The head of household traditionally is the one who owns the means of production and decision power in the household on what and how to process and how much to market (Gwalema, 2010: 57).

**Table 1:** Distribution of respondents by gender

Villages	Gender				Total of the respondents	
	Male		Female			
	Frequency	%	Frequency	%	Frequency	%
Mindu Tulieni	18	26	18	26	36	52
Makombe	16	23	17	25	33	48
Total	34	49	35	51	69	100

Source: Field Survey, 2012

Data sources included primary and secondary sources. A questionnaire was administered to both male and female heads of households. Focus group discussions were formed separately according to sex and age. Through these sources information related to gender and resources was obtained. Data on village population was collected from official documents in the study villages. The rest of the information was obtained from various publications in the library and internet.

Two techniques were used in data analysis. These included qualitative and quantitative techniques. The responses obtained through open ended questions and the information from FGD were analysed qualitatively (content analysis) while the closed ended questions were analysed quantitatively using SPSS statistical programme and Ms Excel Spreadsheet. Cross tabulation was used to establish relationship between variables in percentages.

### LITERATURE REVIEW

#### Gender: An overview

Gender is a fundamental in understanding human interaction with the environment (Mpuya, 1999:23). With respect to natural resources, gender shapes the division of labour, responsibilities and resource control. Division between men and women in access to natural resources, management and use is common in African resources management systems. Women play a substantial role in Tanzania's economy and are very active in agriculture, which accounts for 82 percent of the labour force (Ellis *et al.* 2007). According to Kimarya (1995), women are primary

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environmental managers because of their responsibilities in agriculture, animal husbandry and taking care of the family. Women are also fuel and water gatherers for the whole family. Because of their constant interaction with the environment, women have become more knowledgeable about their environment than men and have developed skills in managing resources. For example, women know which trees are best for fuel-wood and which trees retain moisture in the soil.

There is a clear division of responsibilities of men and women at the household level in African societies. Women deal with the routine tasks of child care, house cleaning, tending food crops, fetching water, collecting fuel-wood and preparing food. It is very rare for men to participate in these activities. If a man is found doing these activities which are for women, he is despised and might be accused by elders of trampling upon the tradition. There is a need to sensitize and educate people on the importance of men participating fully in these chores.

The main source of energy both in urban and rural areas in Tanzania is woody biomass. It is estimated that its consumption per capita is 1m<sup>3</sup> (Kaale, 2005). The availability of biomass energy is not sustainable. Tanzania derives over 90% of her total energy supply from biomass which is traditionally collected by women. Women collect firewood to meet their household's needs and often play a major role in the commercialization of fuel wood. As the main users of forestry produce, women have an intimate practical knowledge of the characteristics of different local species, which makes their participation in woodfuel energy projects essential.

In rural areas, where more than 80% of the Tanzania population live, women play an important role in planning, production and utilization of wood energy for household and community consumption. Women are central to introduction of new energy sources and dissemination and use of various wood energy technologies. They are responsible in this regard not only for themselves, but also for the members of their families and the community at large. According to the study by Nilsson (1986), the contribution of men in fuel-wood collection is very limited and takes place only under certain circumstances, such as bringing home one or two small logs when returning from work. Women are also responsible for fetching water, preparing the farm and attending all family chores including cooking, washing and sometimes grazing animals.

### **GENDER AND NATURAL RESOURCE MANAGEMENT**

The term gender describes all the socially constructed attributes, roles, activities and responsibilities connected to being a male or a female in a given society (March *et al.* 1999). Gender is perceived differently in one country, culture or tribe to the other. For example, being a woman in one culture carries with its roles and expected behaviour varies differently from those of women in other cultures (Morse and Stoking, 1995). The literature on development concludes that the specific role of women in the society and the economy has largely been ignored (Maghimbi and Manda, 1997).

Several literatures have been published on women and development from the 1970s. Unfortunately, not so much has been written on Africa, particularly Tanzania. Boserup (1970) described female and male systems of farming which correspond to the African system of shifting agriculture and the Asian system of plough activation. Boserup argued that due to low population density in Africa and easy access to land resulted into division of labour where men clear the land for cultivation and women actually cultivate the subsistence crops. Gender segregation starts here, where division of labour operate.

In Maasai land cattle herding and farming is done by men. Women milk cows but as a rule they don't take animals to pasture (Maghimbi and Manda, 1997). Farming is done by men who use the cash from animal sales and hire labour from members of the other tribes (*ibid*). Women have very little role in farming and this involves carrying the food (maize and beans) home; but even this task is quite often done by the "Waswahili". This is a case which does not fit Boserup's description of the division of labour in Africa. Beneria and Seni (1988) in Maghimbi and Manda (1997) criticized Boserup because:

*".....despite her basic concern with the position of women in the development process, Boserup does not present a clear cut feminist analysis of women's subordination. By concentrating on the sphere of production outside the household and ignoring the role of women in reproduction her work fails to locate the basis of this subordination".*

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According to Alexander and Fairbridge (1999) in Mark and Winniefridah (2010), resource management is the skillful control of resources by those who ensure that they are used economically and with forethought. Resource management includes all activities which are designed to govern the use of land, forests, the atmosphere, waters and mineral resources in a given environment, taking into account environmental constraints, social, economic, and political implications, technological inventions, national policy, and possible future needs (Clark, 1985). Resources are not evenly distributed; resources vary from one locality or country to another.

Resource management and property rights in rural Africa are both gendered (Mark and Winniefridah, 2010). There is a strong relationship between gender, resource management, resource utilization and ownership of natural resources in the African rural landscape (*ibid*). The differences between men and women show up clearly in the division of responsibilities at home and in their communities (Rwelamira, 1999). In the countries like Tanzania where the farming sector dominates women are the main producers of food while their male counterparts concentrate on cash crops and livestock keeping. Women constitute the main agricultural labour force in Africa and indeed in the Eastern and Southern African region (Rwelamira, 1999). Ironically, men cultivate larger pieces of land and produce more agricultural goods, because they have access to more resources and better technology. Gender role differences cause poverty, as it limits the women's capacity to contribute to food and cash crops production and economic growth. Great impact and overall improvement in sustainable agricultural production brought about by the use of improved technology, such as animal traction, can only be truly accomplished if gender issues are addressed (Rwelamira, 1999). Empowering women will remove them from the poverty cycle. Women empowerment is possible through educating them and giving them loans to initiate income generating activities. Not only these, others include inheritance rights, land ownership, access to resources and leadership, etc. With empowering women, the rate of depending on environment will come down and enable environmental recovery and enhance natural resources management.

### LAND AND GENDER

Throughout Africa, empowering women, to reach at least parity with men, is essential. Aspects such as equal access to land, jobs, health facilities, social security and education for girls have raised concerns. Women empowerment is nothing more and nothing less than increasing women's control over their own lives including resources. This, according to Goodland (1993), includes increasing the choices open to women, especially in land ownership and women's access to resources and credit. In some societies women cannot obtain loans without informing or searching permission from their husbands or parents or head of the household. But it is opposite to men, men can obtain loans without informing his wife. All these denies women rights. A loan taken using land, house or belonging to the family as collateral, cannot be effected in case of default unless the spouse is involved and signs the contract.

Women, especially in the rural areas, see access to land as central to their economic development (Rwelamira, 1999). Women are the food producers and land is an important resource (*ibid*) upon which farming is taking place. Comparing women and men, very few women own the land and are commercial farmers. This is the characteristics of most women in developing countries including Tanzania.

In most rural communities, local governance is still largely structured by an over arching ideology and practice of male authority (*ibid*). Rarely do women participate in the committee or traditional governance structures of the community, except for women groups. Women are deeply involved in community affairs and actively participate in social networks beyond the household chores. The question to ask is how can a community effectively address issues of environmental sustainability without involving women? There is limited focus on the crucial questions of the relations of power that determine women's participation, access and control over land and other resources.

The Maasai society is pastoral by nature, where responsibilities are gender based. From the general knowledge, Maasai women live in a society which has a more gendered division of labour than any other society like farming and agro-pastoralist societies. The kind of Maasailand (herding cattle) is a field which is not easy for women to enter. Men control cattle which can be converted to women (as dowry), and the universal presence of polygamy in Maasailand seems to increase the power to

men. Men can always exchange cattle to wives and thus acquire more labour (of wives and children) which they are able to locate in a manner which stabilizes the existing division of labour. "Maasai women have no the privileges or rights that exist among the more pastoral tribes except as spies and purveyors. They own no property whatever; whereas Chagga and Taveta women hold and keep their property (land and animals) and may acquire more. So disregarded are Maasai women....." (Sheldon, 1892: 332). Given that land plays an important role in the livelihoods of the majority of Africans, food security and poverty reduction cannot be achieved unless issues of access to land, security of tenure and the capacity to use land productively and in a sustainable manner are addressed (Economic Commission for Africa, 2004).

### GENDER AND WATER

Most of the world's 1.2 billion poor people, two thirds of whom are women, live in water scarce countries and do not have access to safe and reliable supplies of water for productive and domestic uses (IFAD, 2000). The bulk of these rural poor people are dependant on agriculture for their livelihoods and live in sub-Saharan Africa and South Asia, the regions which are also home to most of the world's water poor (Molden, 2007). The literature portray that, one third of the world's population is currently experiencing some kind of physical or economic water scarcity (IFAD, 2007). A growing competition for water from different sectors, including industry, agriculture, power generation, domestic use, and the environment, is making it difficult for poor people to access this scarce resource for productive, consumptive and social uses (*ibid*). In water-scarce regions and countries, inequity in access to water resources is increasing because of competition for limited resources, population increase and this particularly affects poor rural people, especially women (*ibid*) and children.

Water is probably the most vital natural resource for all living things. Nkonya in [www.wcl.american.edu/hrbrief/17/3nkonya.pdf](http://www.wcl.american.edu/hrbrief/17/3nkonya.pdf) 22/02/2012 noted that, water is a fundamental resource for life and health. It is a natural resource upon which life of people and other living things depends. Without water, the survival of living things is impossible (Rothschild & Mancinelli, 2001). Water is obtained from wells, taps, lakes, rivers, sea, ocean or tapping/harvesting rain drops. Water is used for cooling machines, cooking, washing, drinking and irrigation. The relationships between people and water have a long history that spans both ancient and contemporary cultures. Uses of water reflect the cultural values and social differences embedded in societies, including gender differences. Gender determines roles and responsibility of men and women regarding water. There are significant gender differences in use, access, fetching and management of water. These differences vary depending on locality, culture and by tribe. In Tanzania for example, fetching water is mainly done by women (Plate 1) and children. During the shortage of water women and children are found roaming around with buckets searching for water. Men found with carts (*mkokoteni*), were searching water for sale.



**Plate 1:** A woman drawing water from a spring in north-western Tanzania.

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In some cases, gender discrimination limits access to water resource. Limitations are possible by placing restriction in their autonomy. Attitudes such as, “women should or should not do this and that” or “men are supposed to do this but not that”, may prevent either women or men action regarding water use, access or management. These limitations if not handled with care may lead to degradation of water sources and destruction of water infrastructure.

In Tanzania, as in many other sub-Saharan African countries, many people do not have access to safe water. Due to scarcity of water most people are forced to use contaminated water. There are more than 41 million people living in Tanzania (URT, 2007), of whom have little water to use, and some use contaminated water. The Household Budget Survey in Tanzania estimated close to half of the households lack access to safe drinking water (URT, 2007). Poor access to safe water often results in unfair and self-perpetuating impacts on the lives of both women and men as it reduces the benefits of development among disadvantaged groups and marginalizes their contribution to society. There is a say that, “no water, no wealth, no well-being”. Without water everything ceases, so water is everything. Whatever we do we need water to some point.

Addressing gender and water together acknowledges these imbalances and seeks to ensure that the contributions of both men and women are recognised. To manage water effectively and sustainably, it is important to understand the different roles of men and women and to target action appropriately. Re-examining how women and men manage water will allow us to, share benefits from use of water, make progress towards more sustainable use of water; and maximize social and economic benefit from sustainable use of water. This becomes increasingly urgent in a situation where water is becoming scarcer and competition between users is growing.

A number of ways have been tried to alleviate the problem of water scarcity in different part of the country. Cheap rooftop collectors are used for harvesting rainwater and store them in a simtank (a big container) or underground well. Women use plastic containers for head-loads of water some use wheel barrows, animal drawn carts, or rudimentary wheeled urns. More innovative use of animal power should be looked into, to help in borehole pumping of water instead of limited hand and expensive diesel pumping. (More should be added on water and women issues).

### **ENERGY SOURCES (FUEL-WOOD) AND GENDER**

Belly (1986) noted that economic activities in African societies could not be separated from social context within which they take place. Evidence suggests that in African society, there are gender differences in economic roles. Boserup (1989) noted that there were segregations of activities to be performed by women and men. Mostly men perform wage and commercial activities, while women are involved in intermediate activities of development like those of services sectors such as domestic work, teaching and health care, to list some. In general, most rural women are doing a great deal to work in the fields to produce food crops for their families.

Intrinsically, women are grounded in ideological constructions of roles and relations between men and women within a family (Timberlake, 1990). Issues of socio-cultural expectations of gender imply that women are more likely to feel responsible for the wellbeing of household members (Tacol, undated). This is because women in poor households carry the highest burden as they are the main gatherer of fuel (firewood) and responsible for family matters. However, women in Tanzania engage in non-farm activities especially those activities, which include fetching water and fuels for domestic purposes (Kulindwa *et al.* 1998).

However, Boserup (1970) pointed out that rural women are increasingly refusing to toil in the fields and insist on doing non-agricultural or domestic works. The reasons for that are based on restrictions to resource ownership rights, income generation and diversification (Carney, 1998). India women, for example, especially those in landless-poor families or without access to common lands, collect forest products and fashion them into saleable commodities like charcoal to provide them with cash income (FAO, 1989). They are doing this because fuel wood and charcoal have higher prices in the market, which ensures them with additional income. However, according to Brigham *et al.* (1996), the majority of charcoal production activities, such as felling stem, cross-cutting and kiln building are done by men, women participate in breaking the kiln after carbonisation as well as in recovering and bagging the charcoal.

Women helped by their children spend a lot of time and energy in searching and collecting fuel-wood. More time spent on searching firewood means less time is available for other productive

activities. Thus, efforts and any facilitation made for fuel wood supply and efficient cooking stoves are beneficial for the poor or rural women.

Heavy reliance for cooking and heating by the majority of the people on fuelwood collected from natural woodland, has led to severe and worsening deforestation hence environmental degradation through soil erosion (Mhache, 2012). Most African households in the rural areas use wood for cooking, heating and for sale. In most areas, fuelwood contributes over two thirds of the total energy used in the rural areas (Goodland, 1993). Over time, fuel-wood is becoming scarce and is not within easy reach by communities. Wood collectors now have to go further into the forests to obtain wood (Mhache, 2012). Shortage of money at household level has started to be allocated for buying commercial fuels, mainly wood and paraffin, thus impoverishing rural households further.

Rising price of kerosene/ paraffin and scarcity of firewood in the forests penalizes women. More time is spent in searching for firewood. Raw fuel-wood (firewood) is less expensive compared to charcoal, coal, electricity, paraffin or gas. Practically, all fuel-wood used in rural areas is collected by women helped by their children. Due to scarcity of wood fuel more time is spent on searching and collection of wood fuel (Mhache, 2004). Collection of one head-load of firewood takes about 3 to 5 hours. Depending on the size of the family and the different uses for the woodfuel, 2 – 3 loads may be needed per week, which needs 6 – 15 hours. Many women walks about 6 – 19 kilometres per head-load, weighing between 21-38 kilograms.

## RESEARCH FINDINGS AND DISCUSSIONS

### Village profile

Mindu Tulieni is a pastoral Maasai village located about 2-5 km west of Lunga village. Settlements in the village are highly dispersed in comparison to other villages in the area, and there is no clear centre of the Mindu Tulieni village. The population of the village has been growing rapidly during the last three decades. According to National Census published in 1978, the population of Mindu Tulieni village was 318 (Hurskainen 1984:16). In 1988 the population of the village was reported to increase to 984 and in 2005 reached 2200 (Madulu, 2005). The majority of inhabitants in Mindu Tulieni are Parakuoyo Maasai, who migrated to the area in the 1960's due to availability of pasture and reliable water. Livestock keeping is the main livelihood means of survival of people in Mindu Tulieni village. Subsistence cultivation and small scale trading have also gained importance since the late 1970's. The villagers get money from selling milk, beef and mutton. The Maasai in the village have thus an increasingly important economic relationship with other villages and tribes in the area, of which most have no livestock other than small amounts of poultry (chicken and duck). Firewood is the source of energy for cooking in the village, charcoal is mainly made for sale. The village has no electricity.

Makombe is a small village situated at about 6.5 km distance from Lunga to North-West (Haapanen, 2011). This village was established during the *ujamaa* era, when people gathered in the nearby areas to a concentrated settlement (Sitari, 1983). Like Lunga, Makombe has also grown during the post-*ujamaa* period. In 1984 the population was 539 and in 2006 reached 999. The inhabitants in the village are engaged in agriculture, charcoal making and working at the stone quarries nearby the village. Agricultural production in the village is organised and intensive, probably due to narrower scope of other livelihood sources. The village has a poor road connection and no electricity. Also there is no pipeline or wells supplying water in the village; water has to be collected from the neighbouring village such as from Mindu Tulieni at 3 km distance or, more often, from Saleni village at almost 6 km distance from Makombe. People in Makombe have traditionally had close relationship with the *Maasai* who live in the neighbouring areas. Very few people are keeping cattle, goat and sheep in the village. As Mindu-Tulieni, firewood is the main source of energy for cooking in the village, charcoal is made for sale.

## ECONOMIC ACTIVITIES OF THE STUDY VILLAGES

The economy of the study villages revolves around livestock, crop cultivation and other economic activities.

### Animal economy

Livestock keeping is the backbone of the economy of Mindu-Tulieni village. Animals reared in the village include cattle, goats, sheep and poultry. Livestock are the main source of food and income in



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the village. Of all animals kept within the village cattle are the central to the Maasai way of life and economy. There was underreporting of the number of animals individual have. For example, only 2% of the heads of households interviewed reported to have between 501-1000 heads of cattle. None of the respondents indicated to have over 1000 heads of cattle (Table 2). However, during the informal conversations it was common to hear of a substantial number of individuals with over 1000 heads of cattle.

**Table 2: Distribution of cattle per household in Mindu Tulieni village**

Number of cattle	Gender	
	Men in percentages	Women in percentages
0	3	32
1-10	38	52
11-50	42	14
51-100	9	0
101-500	6	2
501-1000	2	0
Total	100	100

**Source:** Field survey, 2011

Data on Table 2 shows that not all women have some cattle to use in their households and this is despite the Maasai custom that when women get married they are given cows as presents by their husbands. In this sample 32% of the women interviewed have no cattle. This study found that there is limited commercialization of the livestock sector in the sample area. For example, 94.5% of all men respondents with cattle acquired their cattle through inheritance and no one acquired cattle through purchasing. Selling and buying of livestock for the Maasai is a very limited economic activity in the sense that it is not undertaken on regular basis. Maasai keep livestock for prestige and security. In Makombe village only 2% of 33 people interviewed were keeping livestock. People interviewed in Makombe village complain that they are not keeping animals because of raiders, cattle rustle, thieves and lack of pasture.

#### ***Crop cultivation***

Farming forms the base of Makombe village. All people interviewed in Makombe village are engaged in farming. Farming and livestock keeping in Makombe and Mindu Tulieni respectively are the sources of food and income. In Mindu Tulieni very little is done on farming, as most Maasai are nomads, who as a tradition move from one place to another searching for pasture. Respondents in Makombe villages indicated that maize, cassava and beans are the main crops grown. Almost all the farm plots are less than two kilometres from the homesteads and crops grown are mainly for household food. Very little is taken to the market.

#### ***Other economic activities***

The findings of this research indicate that the Maasai are not involved in any other economic activities apart from livestock keeping. Thus, 79% and 88% of men and women interviewed respectively are not involved in any economic activities beside livestock keeping and farming. For women, the only other economic venture they participate is in selling of milk. Eleven percent (11%) of women reported to sell milk and use the money for family matters. Men on the other hand are involved in more diversified economic activities such as selling and buying livestock, selling of animal skins and mining (Table 3). Pastoralists normally move around in search for grazing land where crop cultivation is limited.

**Table 3: Other economic activities by gender in percentages**

Type of economic activity	Gender	
	Men	Women
No activity	79	88
Buying/ selling cows	5	0
Skin selling	2	0
Mining (quarrying)	5	0
Selling Milk	2	11
Charcoal	2	1
Political post	2	0
Others	3	0
Total	100	100

**Source:** Field survey 2011

**Identification of natural resources**

Focus group discussions (FGDs) held in the study villages identified different natural resources found in Makombe and Mindu Tulienei villages. Natural resources identified were land, water, forests and wild animals. In the beginning of FGD it was difficult to state which natural resources are and which are not. Finally the consensus on what is natural resource was reached with the criteria or conditions as presented in Box 1.

**Box 1: Criteria for identifying natural resources**

Which are natural resources and which are not:
<ul style="list-style-type: none"> <li>• Covering big area (land, forest etc.)</li> <li>• Natural occurring substance (God given or made)</li> <li>• Valuable things found in nature: May be renewable (e.g. wind, sunlight, and timber/forest) or non-renewable (oil, coal, gold).</li> <li>• It was agreed that all man made things like house, roads, dams, etc. are not natural resources.</li> </ul>

After setting the criteria, the participants in the FGDs listed all natural resources found in their respective village. It was difficult to continue with the discussion until a consensus was reached. Table 4 presents natural resources as mentioned and agreed in the discussions held in the study villages. All villages mentioned land, forest and water as the main natural resources found in their respective villages. Wild animals as a resource were mentioned by focus group discussions held in Mindu-Tulienei. Mindu Tulienei is close to Wami Mbiki Forest Reserve, that’s why villagers mentioned wild animals as a natural resource. FGDs held in Makombe village mentioned aggregates in quarries as a natural resource available in their village.

**Table 4: Natural resources per village**

Mindu Tulienei	Makombe
Land	Land
Forest	Forest
Water	Water
Wild animals	Aggregates (quarry)

**Source:** Focus Group Discussion

**GENDER AND RESOURCE UTILIZATION IN THE STUDY VILLAGES**

**Water**

In most societies, women have primary responsibility for management of household water supply, sanitation and health. Mindu Tulienei village is not connected to Wami River Water Plant; villagers mainly women and children depend on traditional wells for fresh water supplies during and shortly after rain seasons. These wells, most of them are not well kept and therefore unfit for human consumption. Pastoralists in Mindu Tulienei village get water for their animals to drink from Mindu dam. While Makombe is getting water from other villages located far away. However, the village does not have running water. Water has to be collected from the neighbouring villages like Mindu Tulienei situated at three-kilometre distance or from Saleni at almost a six-kilometre distance from Makombe village.

Water is necessary not only for drinking, but also for food production (irrigation) and food preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. Because of their prominent role in the supply of water and persistent search for water, women have accumulated considerable knowledge about water resources, including location, quality and storage methods. However, efforts geared towards improving the management of the world’s finite water resources and extending access to safe drinking water and adequate sanitation, often overlook the central role of women in water management. Seventy two percent of the people interviewed, revealed that in 1970s and beginning of 1980s the villages had plenty of streams providing water throughout the year; but population increase in some areas has led to the clearing of marginal areas and water catchment areas leading to drying of the streams. Drying of the streams has resulted in women and children travelling long distances searching for water.

**Gender and land allocation**

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Land is a major natural resource in the study villages and is used primarily for farming and grazing. Farming is more pronounced in Makombe village than in Mindu Tuliene village. Ninety nine percent (99%) of the 33 people interviewed in Makombe village engage in farming while 3% of 36 respondents in Mindu Tuliene engage in farming; the remaining 97% of respondents in Mindu Tuliene engage in livestock keeping.

In Makombe and Mindu Tuliene villages different crops are cultivated including food and cash crops. Food crops include maize as a staple food; others are cassava, millet, sorghum, sweet potatoes and beans. Cash crops include sesame and fruits like mangoes and oranges. Land in Mindu-Tuliene and Makombe villages is under the control of men. During the interviews people explained how they obtained the land. It was revealed through the focus group discussions (FGD) that land is mainly acquired through traditional system of inheritance, borrowing or being given by elder members of a clan (bequeathed) and sometime given by village government (Table 5). Women cannot inherit the land and if they inherit, they are not given the land of the same size as men (Mhache, 2012). And if it happens that women are given land, its size would not be the same as the land given to men. Women get smaller pieces of land compared to men. Some women who own land would have purchased it, while for others their husbands died or their children mainly sons may still be too young to manage the land. Women use the land to take care of their children.

**Table 5: Land acquisition in the study villages**

Land acquisition	Study villages				Total	
	Mindu Tuliene		Makombe		# respondents	%
	# respondents	%	# respondents	%		
Inheritance	15	42	12	34	27	39
Purchase	5	14	6	18	11	16
Borrowed	4	11	5	15	9	13
Family land	12	33	10	30	22	32
Total	36	100	33	100	69	100

**Source:** Fieldwork September, 2012

This study revealed that landowners allocate land to descendants mainly through inheritance (Table 5). Inheritance favours males over females; only the youngest son takes over the house and family farm. This study reveals that 39% of the respondents get land through inheritance while 32% live in the family land. Sixteen percent (16%) of the respondents acquired land through purchasing while 13% of the interviewees get land through borrowing from relatives or neighbours. Differences, however, exist in the mode of land acquisition in the study villages. In all study villages' inheritance and family land dominate. Interviewees mentioned that some land is allocated to people by village leader, but among the respondents no one was allocated land by the government. All people interviewed had the opinion that, all land in the study villages is under the control of men. Some women owning the land might have bought it or their husbands may have died. Tanzania's new National Land Policy (NLP) exemplifies a typical ambivalence concerning women's rights in newly emerging tenure reforms. The NLP states that (Box 2):

### Box 2. Ownership of land

In order to enhance and guarantee women's access to land and security, women will be entitled to acquire land in their own right not only through purchase but also through allocation. However, inheritance of clan family land will continue to be governed by custom and tradition. Ownership of land between husband and wife shall not be the subject of legislation. (Government of Tanzania 1995: NLP Policy Statement 4.2.6).

"We are amazed to see that pastoralists are invading our land at Makombe village", said an old man in Makombe village. "Pastoralists whom many of them are male come to our land/farms and graze over our farms which are usually taken care of by women", Miriam in Makombe village noted. She also asked the government to ensure that the prices of food and cash crops are adhered to by the traders. It was complained by many women interviewed in the study areas that prices of crops get low during the bumper harvest. The prices do not cover the cost incurred in production. Most of the farmers in Tanzania are women and they are the most affected whenever market becomes a

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problem. Various testimonies adduced by women during the focus group discussions were revolving around the land issue versus market for the produced goods.

One of Professor, Dzodzi Tsikata from Ghana addressed TGNP seminar in Dar es Salaam noted that, "as most women in the third world countries depends on agriculture in order to earn their income, it was high time to make sure that ownership of land by women was prioritized and given its due importance. "Women are important factors for an entire nation, and without women there could be no progress. Therefore, let us not undermine the role of women", says the professor. Prof. Dzodzi proposes that governments in African countries including Tanzania should give financial support to farmers in order to make the lands productive. She insists that it is not the commercial farmers who produce for the nation but communal farmers who need to be supported. "Life commences at the land level and life comes from the land, it is as well the products that emanate from the land that make business for any nation", she adds.

Another woman who expressed her dissatisfaction on land in the TGNP Seminar was Emelia Kimaro from West Kilimanjaro in Siha District, Kilimanjaro Region who said they were forced to vacate their residential areas without being resettled to another area. "We were chased by the police to move from West Kilimanjaro Forest, and now we have no place to live, we are starving and we don't know our destiny, she insisted. Prof Dzodzi Tsikata from Ghana noted that in ensuring food security of any nation, women are important factor in the nation that can address the problem very significantly. All these justify the need of ensuring women with land tenure; women should have documents shown the possession of a piece of land.

### **Livestock and poultry keeping**

Animals kept in the study villages include cattle, goats, sheep, donkeys and poultry (chicken and duck). The majority of cattle are owned by the Maasai, who rarely use manure on their farms (Chiwaligo, 2009). Women are only allowed to milk the cow and sell the milk. Very few Kwere and other Bantu tribes in the study area own cattle, sheep and goats. In most cases women own chicken and ducks, and are free to sell eggs as well as chicken and ducks. When cattle, goats, donkeys and sheep are sold the cash is managed by men. Hurskainen (2004) narrated one case of a person in the Lugoba area in 1976 who had almost 3,000 heads of cattle; while the study by Chiwaligo (2009)<sup>1</sup> pointed out that the richest owner had only 570 head of cattle in 2009. This data shows that pastoralists are now abandoning their occupation to engage in other economic activities such as farming, petty business, employment in quarry and other industries as security officers.

### **Gender division and economic activities**

Women economic activities are not always valued and are often not taken in stock. There is the tendency to regard womens' work as secondary and subordinate to men's (Maghimbi and Manda, 1997). Another reason is the fact that an important proportion of women's work is unpaid. Women engage on different household chores such as child care, cooking and cleaning, and servicing the members of a household. All these activities done by women are usually not given a monetary value. Women's poverty has often been attributed to their confinement to domestic labour (*ibid*). According to Rogers (1980), women in developing countries carry almost the total subsistence work load. The amount of subsistence work done by women is not recorded in most studies of the labour force or in manpower studies and planning (Rogers, 1980:155).

During rain seasons women and children spend a lot of their time in the farms. In most cases women engage in food production while men on cash crops or produce for sale. When the crops are ready, part of it is used at household level while the remaining part is for sale. The use of money obtained from such sales is determined by men, the head of the household. Distribution of the income is a problem among men and women. In most cases women are marginalized when it comes to the issue of utilization and distribution of the proceeds from sales.

## **AREAS SHOWING GENDER SEGREGATION**

### **Firewood collection and charcoal making**

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<sup>1</sup>Mr. Simon Chiwaligo, Veterinary Officer (Lugoba ward) 24.10.2008, 23.11.23, 28.07.2009

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In most cases firewood is collected by women and children. Women interviewed declared that, they have to walk long distances searching for firewood (Box 3). In general, charcoal making is an exclusive activity for men. Women and children support men in charcoal making by collecting logs, arranging logs in the kiln and packing charcoal in bags. The motive for making charcoal is mainly for sale to get money. Some of the firewood and charcoal is sold in urban areas. The income obtained in selling charcoal is appropriated by men. Some of the trees suitable for charcoal and firewood are not anymore available and the available species are very small in size, difficult to find and are found very far from villages (Mhache, 2012: 169). This situation forces women to walk long distances in search of suitable species for firewood.

#### **Box 3: Searching for firewood**

In 1960s and 1970s we used to collect firewood nearby our homesteads, we were walking not more than a km searching for firewood. Now we are walking up to 10 kilometres searching for firewood, thus, firewood is found very far from this village. When the population was low in Makombe village we used to collect firewood around our homesteads. Tree species suitable and used for firewood have disappeared due to charcoal making and shifting cultivation which involve burning and lumbering. Sometimes we are forced to cut a live tree, wait it to dry and use it for firewood. *Woman in Makombe village noted.*

Women and children spend 3 to 5 hours in a day searching for firewood (Ahmed, 2002). Women in all the study households are the engine of the house; they are spending their time in non-income generating activities like cooking, fetching water and searching for firewood. Women in Ndeukou, Senegal walk a minimum of 2.5 miles a day in search of firewood (<http://www.she-inc.org/crisis.php>). In Guatemala City a woman who can no longer afford cooking fuel eats only bread and avocados (*ibid*).

Women are involved in charcoal making because of the poverty existing in the study villages as reported by 30% of the 69 people interviewed. Twenty eight percent (28%) of 35 women interviewed were not married but due to responsibilities they shoulder in their family they are forced to engage in charcoal making more often than the married women who need to supplement the income generated by their husbands. About 18% of the respondents interviewed said that there are limited other economic activities which can be used to generate income to women. 13% of the respondents, many of them were Kwere, reported that women engage in charcoal making in order to get money for paying school fees, buy domestic appliances and clothes. Other income is used for financing ritual and cultural activities like ceremonies (*unyago*) for females. The lives of either divorced or separated or widows were observed to be very tough. Such women have no alternative means of survival apart from charcoal making. The story of old man in Box 4 shows why women engage in charcoal making.

#### **Box 4: Reasons for women engaging in charcoal making**

I am widow. My husband died 7 years ago (2006). When I was with my husband I didn't engage in charcoal making, although my husband was doing it. The death of my husband was a big blow in my life. After his death my life changed and become very tough such that I have to look for other means of survival together with children who depend on me. I found charcoal making to be the only solution to solve my livelihoods' problems. So, I had to engage in the activity and I am now used to it and I don't have any problem any more.

Furthermore, if a male household member is engaged full-time in casual labour or charcoal burning, this provides a steady income for the household. Women engaged in casual labour receive only very small salaries which are not adequate for the sustenance of the family. Charcoal making provides a steady source of income.

#### **Employment in quarrying factory**

Since 1993 onwards, several quarries have been established in western Bagamoyo by foreign companies. These quarries provide employment to hundreds of local people, some of which come

from Makombe village. Most of the people employed in the quarry are man. However, women are food vendors, preparing and selling food to quarries' workers. In western Bagamoyo there are many quarries companies such as NOREMCO, ESTIM, TEMBO, MBIKI, IHEMBE, KERAI, ESTATE, BADRI, SINGA, NAIBALA, MATAULO and ASHARAF (Mhache, 2012). Most of these companies prefer to employ males to females. The number of employees in each quarry i.e. ESTIM, NOREMCO, JICA, MBIKI, KERAI, ESTATE and MATAULO is presented in Table 6.

**Table 6: Employment in selected quarries by gender**

Factory	Male		Female		Total	
	Employees	%	Employees	%	Employees	%
ESTIM	20	87	3	13	23	100
NOREMCO	27	82	6	18	33	100
JICA	25	86	4	14	29	100
MBIKI	31	82	7	18	38	100
KERAI	37	79	10	21	47	100
ESTATE	19	83	4	17	23	100
MATAULO	15	83	3	17	18	100

Source: Field survey, 2011

Women interviewed complained there is gender discrimination in the quarries. They want to work in quarries, but the quarries owners still refuse to employ women. They consider it to be a man's job. In a conversation with the Makombe Village Chairman and Village Executive Officer (VEO), it was found that, it is hard for women to secure employment in these quarries because women's attendance at the work place is poor and they often ask permission to attend to family matters e.g. a child or mother or father falling sick, etc. In addition the work is most suited to strong males. Some activities are done at night, a shift which most females do not like, especially for married women.

### Gender division and resource utilization

The Maasai economy in Mindu Tulieni focuses on cattle. Ownership and control of animals is tightly vested in male heads of households although women have limited rights like control of milk of certain cows in the household. Men also control religious rituals. The central postulate (theory) posed is that the division of labour in Maasailand is asymmetrical and gendered in favour of men.

The Maasai own large herds of cattle and they have been pastoral and nomadic people throughout their existence. Maasai cattle are mainly for beef; and the cow produces little milk. However, because the Maasai keep large numbers of cattle there is always abundant milk during the rainy season when grass is plentiful. The Maasai burn forests in dry seasons in order to get good pasture during the rain seasons.

Maasai women are more disadvantaged than the women in neighbouring tribes, the Kwere and other Bantu tribes in Makombe village. In Maasai tribe, men control farming because they have money to hire labour and pay for tractors. In Mindu-Tulieni village, the Maasai do not encourage farming in their communities. However, they have small farms near their kraals. The feeling among the Maasai is that, too much farming will destroy the cattle economy (Magimbi and Manda. 1997). During the research there was a case of a Maasai who was prohibited to open a second farm because the other Maasai claimed that he was destroying their pasture.

Women as indicated earlier do all the household work including bringing up children. The 18 men interviewed had 45 wives and the mean here is just above two. The Maasai women interviewed said that, they are happy when husband marries a second or more wives because they assist in milking, farming and building houses. The tendency is for the man to have one kraal but when he has too many cattle and wives he can have two kraals (Magimbi and Manda. 1997).

Women also build houses and they cut the trees for building. If there is no water for making mud they use cow dung for the wall and roof. Men however build the thorn fence surrounding the boma (corral) (Figure 2). Some men hire "Waswahili" (people from other tribes) to build their huts instead of the job being done by their wives. Contrary to Wakwere in Makombe village, men build the houses; women can assist in fetching water for making mud. Farming in Makombe is done

jointly by men and women. Contrary to Ester Boserups formulation, Maasai farming is male dominated (Boserup, 1970:17).



**Figure 2:** A boma/corral in Mindu Tulieni

### CONCLUSION AND RECOMMENDATIONS

This article is a contribution to efforts towards gender empowerment through resource allocation, ownership and management. Natural resources discussed in detail in this article included land, water, forests and animals. Women and children have a great role to play in the development projects as pointed out in this paper. The paper concludes that, one way how women's can be empowered is through giving them access to land and other resources. The study found out that gender division leads to unsustainable utilization of natural resources. The majorities of women who are farmers do not have off-farm income generating activities and thus solely depend on agricultural activities for their livelihoods. Through empowering women, their dependence on men for their survival will be lessened.

The study also found that, political will in most African countries including Tanzania in addressing gender discrimination is missing. There is a need of mainstreaming all issues related to gender in the development avenues including management and ownership of natural resources. In some countries and tribes like Maasai in Mindu Tulieni village it is still a problem in addressing gender equality and income redistribution. Customs and traditions which oppress women should be addressed. In order to achieve sustainable development in any state, empowerment of women is a must for sustainable development. Women's empowerment is a must as Millennium Development Goal 3 stated, promote gender equality and empower women. Human capital formation and social services provision through education and training, employment creation, particularly for girls and women is of paramount importance.

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