

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. It farther focuses on gendered decision-making and negotiation over the management of land, forests, livestock and water in Bagamoyo District. In total, 69 heads of households were interviewed and answered the questionnaires in the study villages. 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.*

Roles of men and women in natural resources use, management and conservation are taken on board. Findings have further shown that gender, culture and structure of tribes' constrains 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 documentation 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 paper 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 (Hart, 1995). Natural resources refers to all 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 are made by man to bring them into existence. Natural resources are the things that the 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*).

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 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 as being superior to 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 an example of total domination of men. 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 paper. However, this paper is designed to discern and determine the dynamics of gender against the allocation, ownership and utilization of natural resources.

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 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 in income generating activities or seasonal 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.

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

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

From the research objectives the following research questions were made.

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

Women constitute about 52% of the rural population in Tanzania (Matinda, 2010). Thus, women are the main food producer (URT, 2007:6) and taking 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 with the purpose of finding 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 contribute to the efforts made by the government, private sector, non-governmental organizations (NGOs) and other stakeholders in fighting against gender discrimination in resource allocation and utilization.

Gender awareness is 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 (Kimarya, 1995). Difference between men and women in relation to 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 environmental managers because of their responsibilities in agriculture, animal husbandry and taking care of the family. Women are also fuel-wood gatherers and water fetchers for the whole families. 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 found in their environments. For example, women are better informed about which trees are best for fuel-wood and which trees retain moisture in the soil than their male counterparts. It is so because women are mostly involved in collection of firewood, in using it, and are mainly involved in cultivating crops.

There is a clear division of responsibilities between 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 and custom.

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 1m³ (Kaale, 2005). Tanzania derives over 90% of her total energy supply from biomass which is traditionally collected by women. However, it is estimated that more than 90% of the population in Tanzania, both in urban and rural areas, use biomass energy for cooking and heating (FBD, 2000). Women collect firewood for fuel needs and often play a major role in fuel wood business/sale. 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.

Women constitute high proportion in rural areas - where more than 80% of the Tanzania population lives. Women are also responsible for fetching water, cultivating the land and attending all family chores including cooking, washing and - in some cases, grazing animals. 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 farming, planting or weeding.

Gender relations are culturally determined because they are socially constructed. 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).

Several books have been published on women and development from the 1970s. Most of the books write on gender mainstreaming, reducing gender inequality, gender and natural resources. Natural resources which are of immediate use are non-renewable in nature, and even those which are renewable takes many years to be useful to man. For example, if forests are burn or trees are cut for fuel wood, poles or timber takes many years to regenerate. To control deforestation or any other problems relate to it, there is a need to institute proper natural resources management.

According to Alexander and Fairbridge (1999) in Mark and Winniefridah (2010), resource management is the skilful 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 regarding resource management at home and in their communities (Rwelamira, 1999). In countries like Tanzania - where the farming sector dominates, women are the main producers of food while their male counterparts concentrate on cash crops production and livestock keeping. Women constitute the main agricultural labour force in Africa and indeed in the Eastern and Southern African region (Rwelamira, 1999). Men engage mainly in cash crop production while women engage on food crops. Some Maasai are engaging in animal keeping while others combine animal keeping and farming.

Gender role differences cause poverty, as it limits the women 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 financially will remove them from the poverty cycle. Women empowerment is possible through educating them on entrepreneur skills and giving them loans to initiate income generating activities. By empowering women, the rate of depending on environment will come down and enable environmental recovery and enhance natural resources management.

In most African countries, empowering women, to reach at least parity with men, is essential. Women empowerment is nothing more and nothing less than increasing women's control over their own lives and resources around them. According to Goodland (1993), empowering women includes increasing the choices open to women, especially in land ownership and women's control to resources and access credits. Most married women in developing countries including Tanzania 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 their wives. All these denies women rights. A loan taken using land, or house belonging to the family as collateral, cannot be effected in case of default unless the spouse is involved and signs the contract.

Women in the rural areas, see control or ownership of land as central to their economic development (Rwelamira, 1999). Women are the food producers - hence land is an important resource (*ibid*) upon which farming is taking place. As compared to men, very few women own/control as commercial farmers. This is characteristic of most women in developing countries including Tanzania.

To most of the rural communities, local governance is still largely structured by an over arching ideology and practice of male authority (*ibid*). 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 like forest and animals.

The Maasai society is pastoral by nature, where responsibilities or roles 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. Among the Maasai society herding or owning 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 of men over women. Men can always exchange cattle for 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 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. 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 control and ownership to land, security of tenure and the capacity to use land productively and in a sustainable manner are addressed (Economic Commission for Africa, 2004).

About 1.2 billion poor people, two thirds of whom are women, live in water scarce places 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 (IFAD, 2007). 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 and children (*ibid*).

Water is probably the most vital natural resource for all living things. Nkonya (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 and Mancinelli, 2001). Water is obtained from wells, taps, lakes, rivers, sea, ocean or tapping/harvesting rain. 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. Thus, uses of water reflect the cultural values and social differences embedded in societies, including gender differences. Technological development attained by a particular society influences availability and uses of water. For example, there is a system of irrigation where drops of water go direct to the roots of crops, which means no water is lost. 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 tribe. In rural 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 are found with carts (*mkokoteni*), invariably searching water for sale.

In Tanzania, as in many other sub-Saharan African countries, most of the 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 more than 45% have little water to use, and some use contaminated or unsafe water (*ibid*). The Household Budget Survey in Tanzania estimated that 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 saying 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.



Plate 1: A woman drawing water from a spring in Mindu-Tulieni Village.

Management of water resources is important in any society. Water management and utilization is a role of both men and women. Through this process enable the society to set targets and actions appropriately in water utilization and management. 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 measures have been tried to alleviate the problem of water scarcity in different part of the country including the study villages; Mindu-Tulieni and Makombe. Cheap rooftop collectors are used for harvesting rainwater and store them in a simtank (a big container) or underground well. Villages have Village Water Committees (VWC) responsible for water distribution. In Mindu-Tulieni for example, the committee is controlling the Mindu-Dam where people get water for their use and for their animals. Pastoralists from other villages have to contact this committee before taking their animals in the dam. Villagers are allowed to fetch water from the dam for their use at any time.

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. In most cases, men perform wage and commercial activities, while women are involved in intermediate activities of development like those of services sectors such as domestic work (cooking, washing), teaching and health care, to list some. In general, most rural women are doing a great deal of 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. The global picture is similar to the plight of women in Tanzania who are engaged in non-farm activities especially those activities, which include fetching water and fuels for domestic purposes (Kulindwa *et al.*, 1998).

Women in India, for example, especially those in families without access to common lands, collect forest products from government controlled land 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 jointly by men and women who participate in breaking the kiln after carbonisation as well as in recovering and bagging the charcoal.

Women 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 on fuel-wood collected from natural woodland, has led to severe and worsening deforestation and environmental degradation (Mhache, 2012). Most African households in the rural areas use wood for cooking, heating and for sale. In most areas, fuel-wood 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). 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 mostly affect women. More time is spent in searching for firewood. Raw fuel-wood (firewood) is less expensive compared to charcoal, coal, electricity, paraffin or gas.. Due to scarcity of wood fuel women and children spend more time searching and collecting wood fuel in rural areas (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 wood-fuel, two to three loads may be needed per week, which needs 6 to 15 hours. Many women walk about 6 to 19 kilometres per head-load, weighing between 21 to 38 kilograms.

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 (Wami River and Ruvu River) provide abundant fresh water for fishing, irrigation, domestic and industrial use. There is also bee-keeping activities and wildlife in the district. 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 and 35 females were interviewed. The stratified sampling technique was used to get samples, where males and females were sampled. This was followed by random sampling to get the respondents from male and female groups. It was planned to sample 69 respondents/heads of household, the figure which was achieved.

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

This study used both primary and secondary information. 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' offices. The rest of the information was obtained from various publications in the library and internet.

Two techniques were used in data analysis – which 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 using SPSS statistical programme and Ms Excel Spreadsheet.

RESEARCH FINDINGS

Village profile

Mindu-Tulieni is a pastoral Maasai village located about 5 km west of Lunga village. Settlements in the village are highly dispersed in comparison with other

villages in the area, and there is no clear centre of the village. The population of the village has been growing rapidly during the last three decades. This increase is caused by both high rate of birth rate and in-migration caused by people buying land and decides to live in the village. According to National Census published in 1978, the population of the 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 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 in the area, of which most have no livestock other than small amounts of poultry (chicken and duck). Firewood is the main source of energy for cooking in the village as the village has no electricity. Charcoal is mainly made for sale. Makombe is a small village situated at about 6.5 km distance from Lunga to North-West. 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 are no pipelines 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.

Pastoral 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 the village. Of all animals kept within the village, cattle are central to the Maasai way of life and economy. There was underreporting of the number of animals individuals have. For example, only 2% of the heads of households interviewed reported to have between 501-1,000 heads of cattle. None of the respondents indicated to have over 1,000 heads of cattle (Table 2). However, during the informal conversations it was common to hear of a substantial number of individuals owning over 1,000 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
501-1,000	2	0
Total	100	100

Source: Field survey, 2011

Data on Table 2 shows that not all women own cattle. In this sample 32% of the women interviewed had no cattle. This study found that there is limited commercialization of the livestock sector in the sample areas. 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. Villagers were meeting their needs through remittances obtained from their relatives residing in urban areas. While others were selling forest products and get money which they used to buy their basic needs, pay the school fees of their children and treatments.

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 matter of tradition, move from one place to another searching for pasture. Respondents in Makombe village indicated that maize, cassava and beans are the main crops grown. Almost all the farm plots are situated less than two kilometres from the homesteads and crops grown are mainly for household food. Very little is taken to the market. Since very little is taken to the market, people get support concerning money from their children and relatives living in urban areas. Farming is done in the lowland areas, the areas which hold water for long time. Grazing is done in the village forest and on the farms after harvesting seasons.

Other Economic Activities

The findings of this research indicated that the Maasai are mainly involved in livestock keeping. When the need of money arises, Maasai used to sell goat or sheep. However, 88% of women interviewed were engaging only in farming, were not engaging in any other economic activities. For women, the only other economic venture they participated was on selling milk. Eleven percent 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 of 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-Tulieni 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:

- Covering big area (land, forest, water etc.)
- Natural occurring substance (God given or made)
- Valuable things found in nature: May be renewable (e.g. wind, sunlight, and timber/forest) or non-renewable (coal, gold).
- It was agreed that all man made things like house, roads, dams, etc. are not natural resources.

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-Tulieni. Mindu-Tulieni 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 found in Mindu-Tulieni and Makombe villages

Resource	Village	
	Mindu-Tulieni	Makombe
Land	*	*
Water	*	*
Wild animals	*	*
Aggregate (quarry)	-	*

Source: Focus Group Discussion, 2011

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-Tulieni 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. Most of these wells, are not well kept and therefore the water is unfit for human consumption. Pastoralists in Mindu-Tulieni village get water for their animals to drink from Mindu dam. While Makombe is getting water from other villages located far away. However, the Makombe village does not have running water. Water has to be collected from the neighbouring villages like Mindu-Tulieni situated three-kilometres from Saleni - 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, and washing. 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, 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

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-Tulieni village. Ninety nine percent (99%) of the 33 people interviewed in Makombe village engage in farming while 3% of 36 respondents in Mindu-Tulieni engage in farming; the remaining 97% of respondents in Mindu-Tulieni engage in livestock keeping.

In Makombe and Mindu-Tulieni villages different crops are cultivated including food and cash crops. Food crops grown include maize as a staple food; others are cassava, millet, sorghum, sweet potatoes and beans. Cash crops cultivated include

sesame and fruits like mangoes and oranges. During the interviews people explained how they obtained the land they used to grow crops (Table 5). 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). 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-Tulieni		Makombe		# respondents	%
	# respondents	%	# respondents	%		
Inheritance from parents	15	42	12	34	27	39
Purchase	5	14	6	18	11	16
Borrowed	4	11	5	15	9	13
Apportioned part of the 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). People inherit land after the death of their parents, relatives or guardian. Inheritance favours males over females; only the youngest son takes over the house and family farm. This study reveals that 39% of the respondents acquired land through inheritance while 32% were apportioned part of the land from the family land. Sixteen percent (16%) of the respondents acquired land through purchasing while 13% got 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 apportioned part of land to relatives dominate. Respondents mentioned that some land is allocated to people by the village leader, but among the respondents no one was allocated land by the village government. Seventy nine percent of the people interviewed states that they own the land while the remaining 21% were women who also own the land. 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.

“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 the complaint of many women interviewed in the study areas that prices of crops get low during the bumper harvest (fluctuation of crop prices). 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 the market becomes a problem. Various testimonies adduced by women during the focus group discussions were revolving around the land issue versus prices of their crops. Professor, Dzodzi Tsikata from Ghana while speaking at a TGNP seminar in Dar es Salaam noted that, “as most women in the third world countries depend 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.

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 (Chivaligo, 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 Chivaligo (2009)¹ pointed out that the richest owner had only 570 head of cattle in 2009. The number of cattle villager own declined due to shortage of pasture and lack of area to graze the cattle. Other pastoralists have abandoned cattle keeping and 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 women’s 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. Subsistence work done by women is not recorded in most studies of the labour force or in manpower studies and planning (Rogers, 1980:155). This study found that 77% of 35 women interviewed were

¹ Mr. Simon Chivaligo, Veterinary Officer (Lugoba ward) 24.10.2008, 23.11.23, 28.07.2009

engaging in unpaid work such as cooking, tilling the land and collecting firewood. Women who were not married were engaging on income generating activities like tailoring, petty business and food vending which provide them income.

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

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). On the other hand charcoal making is mainly performed by 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 making 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 and men to walk long distances in search of suitable species for firewood and charcoal, respectively.

Box 3: Searching for firewood

In 1960s and 1970s we used to collect firewood nearby our homesteads, we were walking not more than a kilometre 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 involved burning and lumbering. Sometimes we are forced to cut a live tree, wait it to dry and use it for firewood. *A woman in Makombe village noted.*

Women and children spend 3 to 5 hours in a day searching for firewood (Ahmed, 2002). Mhache, (2012) in his study found that women and children walk a minimum of 2.5 miles a day in search of firewood. Fifty three percent of women interviewed declared that sometime they spend fewer hours while in some days they spend up to six hours searching for firewood. This study revealed that, now the firewood is obtained very far from the village due to over use caused by population increase and massive cutting trees for charcoal making.

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 of 35 women interviewed were not married but due to responsibilities they

shoulder in their families they are forced to engage in charcoal making more often than the married women who need to supplement the income generated by their husbands. Thirteen percent of the respondents, many of them were Kwere, reported that women engage in charcoal making in order to get money for paying school fees, buying domestic appliances and clothes. The lives of either divorced or separated or widows were observed to be very tough. These women have no alternative means of survival apart from charcoal making and petty trade. The story of old woman in Box 4 shows why women engage in charcoal making.

Box 4: Reasons for women engaging in charcoal making

I am a 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. After the death of my husband my life changed and become very tough; I found charcoal making to be the only solution to solve my livelihoods' problems. So, I had to engage in charcoal making activity, the activity I am now used to and I don't have any problem any more. The money am getting from charcoal making helped me to solve family problems including paying for treatment and school fees for my children, among others.

Employment in quarrying factory

Since 1993 onwards, several quarries factories 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 men. 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 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 that 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 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 on males' 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 and culture.

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 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) (Plate 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.



Plate 2: A boma/corral in Mindu-Tulieni

DISCUSSION

Field work was carried out in Mindu-Tulieni and Makombe villages. In this study 69 people were interviewed including 34 males and 35 females. This sample was selected from the village register obtained from the village offices. About 31 people participated in the focus group discussions. The sample identified helped to answer the research questions and justify the information obtained through secondary sources.

Gender has a very big contribution on utilization of natural resources. In most societies gender determines allocation of resources at family and society level. Gender is used in determining roles, who own what and who make decisions. The roles of gender vary depending on the culture and customs of the society. The Maasai culture varies with other tribes like Kwere. Even the means of survival of these two tribes vary; Maasai depend on cattle while Kwere depend on farming (Haapanen, 2011; Mhache, 2012).

The findings proved that attention to gender differences in property rights can improve natural resources use, environmental sustainability, equity and empowerment of the resource users. The policies in place and division of labour are inadequately addressing the issue of gender. There is a need of mainstreaming gender in policies, in decision making bodies and in natural resources allocation. The policies and even customs omit the gender relationship in management and utilization of natural resources. In Maasai society for example, man is the owner of the animals and is the decision maker in the family. Other cultures or tribes have the same system, for example Chagga people in Moshi bequeath the land to their sons, not to daughters.

The decision-making over the management of natural resources like land, forests, livestock and water in Bagamoyo District and other areas are of paramount importance. Roles of men and women in natural resources use, management and conservation vary from one locality to the other. However, gender, culture and structure of tribes' have an impact on the natural resources management. The discrimination of resource ownership, distribution and utilization is what contributed to mismanagement and degradation of natural resources.

Natural resources in the study villages are land, water, forests and wild animals. The life of rural people depends on these natural resources for their survival. The alternative means of survival like engaging on secondary activities is not possible in most rural areas including the study villages. Rural areas lack electricity to run industries and small workshops. The study villages are not connected to piped water from Wami River Water Plant, as the result most of the time what would be used in other economic activities is spent on searching and fetching water. Women and children walk about three to six kilometres searching for water. The same hours is spent on searching for firewood.

Land is where all economic activities are performed. Farming and animal grazing take place on land. Without land no life. The allocation of land differs from one society to the other. In most societies only son inherit the land, women cannot. Thus land is obtained through inheritances, borrowing or purchasing. Most women owning the land would have bought it.

CONCLUSION AND RECOMMENDATIONS

This paper is a contribution to efforts towards gender empowerment through resource allocation, ownership and management. Natural resources discussed in detail in this paper included land, water, forests and animals. Women and children have a great role to play in the development of country and the society in which they live as pointed out in this paper. Women contribute in farming, fetching water, collecting firewood, cooking for the family, milking cow, to list some. The paper concludes that, one way how women can be empowered is through giving them credits, and training on proper use of land and other resources. 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 utilization, 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 such as inheritance and ownership of resources which favour men than women should be addressed. In order to achieve sustainable development in any society, empowerment of women is a must. Women's empowerment is a must as Millennium Development Goal 3 state; 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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