



## The Role of Women in Sheep and Goats Production in Sub-Saharan Africa

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### Abstract

Women play significant roles in the domestic and national socio-economic development of many countries in the sub-Sahara Africa. They own livestock especially sheep and goats since these animals are smaller and easier to handle compared to cattle and camels. The purpose of this study was to examine the roles women play in sheep and goat production across the 41 Sub-Saharan African countries. The study reviewed available secondary data and case studies. Content analysis procedures include identifying appropriate literature, evaluating the data, and synthesizing the information. The study found that women's roles in rearing sheep and goats were not significantly different from men's. The review also found that, a role particularly that of women is more of an inheritance and is usually acquired. Women's knowledge on various sheep and goat rearing activities were also analyzed. The study found that women were knowledgeable in rearing sheep and goats than men.

**Keywords:** Production, Role, Sheep and Goats, Sub-Sahara Africa, Women.

Reference to this paper should be made as follows:

Hulela, K. (2010). The Role of Women in Sheep and Goats Production in Sub-Saharan Africa. *International Journal of Scientific Research in Education*, 3(3), 177-187. Retrieved [DATE] from <http://www.ijrsre.com>.

### INTRODUCTION AND BACKGROUND

The sub-Saharan Africa (SSA) region is large in size, comprising of forty-one countries and it is the poorest in the world. The region extends from the bottom tip of the map of Africa up to the beginning of the Sahara desert in the northern part of the continent (figure 1). Sub-Saharan Africa is also called the "Black African" region. Development in this region is affected by cultural differences, climatic factors, civil unrests, and rapid technological changes (Chhibber & Laajaj, 2007).

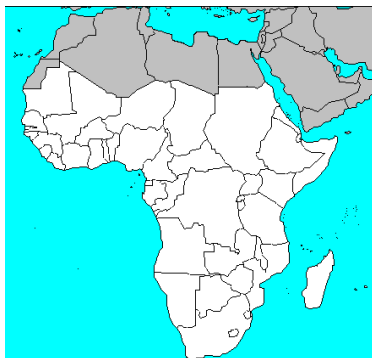


Figure 1: Sub Saharan Africa in white (www.worldmap.org)

Sheep and goats in Sub-Sahara Africa (SSA) are found in almost all countries even though they are not evenly distributed (Otte & Chilonda, 2000). There are close to 160 million sheep and slightly above 180 million goats in the SSA. The highest population of sheep is found in the eastern region (91,900), followed by the western region (57,057). In the third and fourth positions are central Africa (95,331) and southern Africa (4,385) respectively. There are close to 180 million goats in the SSA region. The East African region has the highest number of goats (91,039) followed by the western region (67,896). In the third position is the southern African region (12,054) and the central region (11,098) is in the fourth position (Otte & Chilonda, 2002).

The rearing of sheep and goats is moving from the traditional subsistence farming to business or commercial enterprises since countries in the SSA region achieved independence (Mrema and Ferris, n.d). The management has also moved from being a family activity to a national function. In some countries, these developments have led to the establishment of educational enterprises, modifying curriculum content for schools, and research programmes (International Fund for Agricultural Development (IFAD), 2007; Elliot, Stout, Dejardin & Sithole, 1998; Singh, 1998). Governments and Non-Governmental organizations such as IFAD also fund projects to support development in sheep and goats industry. The IFAD projects in the north, east and central sub-Saharan African regions are evidence of women's contribution towards fighting poverty and other socio-economic imbalances among their societies through rearing of sheep and goats.

Sheep and goats are among small livestock kept by farmers with limited financial resources for poverty alleviation in many developing countries especially in Africa. They are a unique type of animal sector and serve as a source of revenue (Panin, 1993; Degen 2006) for small holder farmers who can not afford to maintain large ruminant livestock like cattle. This is true for the disadvantaged and their families in rural areas of the sub-Saharan Africa (Nwakor, 2004; Degen, 2006). According to Elliot, Stout, Dejardin & Sithole (1998), sheep and goats are animals that are favourites for the poor because they are cheap to manage and they mature early and breed readily, therefore increase in number quickly. They have small body size, and reach slaughtering weights early. They can easily thrive under poor conditions and are more drought tolerant than animals like cattle. These characteristics make small ruminants such as sheep and goats easy to keep for many people. In the "rain-fed agro-ecosystems" of India, sheep and goats have been reported to help the management of risks incurred in growing crops during poor rainy seasons and providing income to ensure economic stability for mixed farming families as well as supporting the keeping of large ruminants (Misra, Rama, Subrahmanyam, Babu, Shivarudrappa, & Ramakrishna, 2007).

Sheep and goats are a profitable and reliable business in dry, hot, deserts and mountainous areas of sub-Saharan Africa (Panin, 1993). Their skins and hair provide valuable products (Mwandotto, Wachira, & Chemitei, 1992). They also provide meat and milk that are an alternative to beef and cow milk in today's society which carefully watch the conditions of high cholesterol and hypertension. In Kenya sheep and goats contribute close to 20% of calories and three quarters of the meat needed by people. Milk from the small ruminants provides most nutrients, containing strong flavour compared to that of cows' and camels' milk. It also tastes differently as it is more concentrated in nutrients (Nwafor, 2004).

## **Research Problem and Purpose of the study**

Although some research work has been done on issues of women and gender in agriculture and related sciences, it has been insufficient to substantially delineate women's actual roles in sheep and goats agricultural activities. In fact, with increase in the calls for recognition of women's involvement in all sectors of economic importance very little research has been conducted in the last decades about the actual roles women play. Additionally, while women outnumber men in traditional agricultural activities their role is still under documented and recognized. The small proportion of women and girls roles recognized in agricultural disciplines such as small livestock production is striking. This study therefore was designed to examine women's roles in sheep and goats' management in the sub-Sahara African region.

The purpose of the study was to examine women's roles in sheep and goats management in the sub-Sahara African region. Specifically, the study was to:

1. Identify appropriate roles played by women in small livestock rearing and production systems.
2. Describe the roles women play when keeping sheep and goats
3. Compare the roles played by women with those played by men in small livestock rearing.
4. Describe factors influencing roles taken by women in sheep and goats production

## REVIEW OF LITERATURE

### Women in sheep and goats production in Sub Sahara Africa (SSA)

Women in Africa perform various functions in the livestock industry and yet there is little research about their roles. According to FAO (1998) agriculture is the leading provider of income, foreign earnings, employment, raw materials, and food in many African countries. This means, women contribute positively to economic development of many countries since they are involved in more than 80% of these agricultural activities. There may be variations in the role women play among countries in sub-Saharan Africa, but women in agriculture account for the greater proportion of economic development. Women in the small ruminants' production sector of agriculture have pertinent responsibilities and functions which have similarities and differences to specialization when compared to the roles of men.

IFAD (2004) reported that a large number of women in different countries of Sub-Saharan Africa (SSA) have been associated with small livestock roles particularly sheep and goats for many years. The cultures and socio-economic factors of the societies in the SSA region seem to have tied women with sheep and goats. On the other hand women have also shown the enthusiasm and feel attracted to sheep and goats than other types of livestock. Therefore, it is not by chance that women play a major role in sheep and goats rearing.

According to Reij, and Waters-Bayer (2001) and Moses (2006) women carry out numerous activities in livestock production including sheep and goats. For example, Ogunlela and Mukhtar (2009) alluded to the fact that in Nigeria women carry out more agricultural activities compared to men. It is also indicated that in Nigeria and Ghana projects addressing poverty and other socioeconomic challenges have been successful because of women led group work (Ogunlela & Mukhtar, 2009; IFAD, 2009). Banda (2004) has stated that in Malawi, a large number of sheep and goats are found in rural areas making it very attractive for them to keep and manage sheep and goats. Moses (2006) reported that women have that original scientific and practical knowledge which they are born with regarding the management of sheep and goats. Moses has also reported several examples of specific functions performed by women from different countries worldwide.

Among others, Moses (2006) reported that in Botswana men would frequently use their wives as reference in livestock management aspects since they work closer to animals. In Tanzania and Kenya, women utilize sheep and goats to control bush encroachment which is a grazing management strategy, while in Nigeria women process milk after their husbands had finished milking. In this regard, women provide the labour force for different activities in livestock rearing (IFAD, 2007). Depending on the country, women may or may not decide on marketing of the animal without the consent of the husband. For example, women manage livestock including sheep and goats while their husbands, sons and brothers who work in urban areas (it used to be mines in South Africa). During this period, women will not dispose of animals without the consent of the men. As indicated by IFAD (2007), "*men's de-jure ownership rights over animals are guaranteed by a near universal set of inheritance rules that are gender biased and rooted in religion and patriarchal kinship*". This seems to be the popular practice in countries in the south of sub-Saharan Africa.

The theoretical framework of this study was formulated around the fact that women perform different roles in sheep and goats production. A role is defined in this article as the behaviour that a person or an individual is expected to perform or display in a situation that confronts him or her or in a family or an organization (Kossylin & Rosenberg, 2000; Berth & Theron, 1999; Myers, 2004). Kossylin & Rosenberg (2000) observed that "roles are the behaviours that members on different positions in a group are expected to perform". The authors allude to the fact that roles of a person in a society are assigned authoritatively but in most cases they tend to be created and fulfilled by virtue of seniority in the group. Roles are important because they tend to define and describe duties within groups of people. Generally, women concentrate on roles not easily recognized and yet they carry out several activities just like men in the production of sheep and goats. IFAD (2007) stated that the roles of women in agriculture are many but have been "underestimated, undervalued and widely ignored." The metaphors used by IFAD provide a genuine motivation for the research and subsequent argument on the position, functions, and responsibilities played by women in the rearing of sheep and goats.

IFAD also reported that women manage animals kept mainly in homesteads. In Botswana, the traditional system of rearing animals is evidence to this. Women take care of children; provide food for the family; therefore sheep and goats are the types of ruminant animals to keep for immediate availability. In the traditional system cattle are normally kept by men and they are not readily available for sale by women. Botswana people traditionally are not known for selling cattle very easily. According to IFAD, religion such as Islam would prefer women to remain home, like the Fulani (West Africa), Somali (East Africa), the Basarwa and BaZezuru (Southern Africa).

Livestock production is a multifaceted management activity. That is, it has different activities especially meant for women like their “knowledge of gynaecology” while men are expected to make kraals and farm structures. Women also have an opportunity to influence resources, technological changes, decision making, and management adopted for the keeping of sheep and goats. In other areas women also show their knowledge on the management of sheep and goats diseases and parasites. For instance, the knowledge on when and how to use certain parts of the grazing area to prevent parasites is an example of skilful management by women (IFAD, 2007).

The World Bank report (2000) stated that “women are one of Africa’s hidden growth reserves, providing most of the region’s labor, but their productivity is hampered by widespread inequality in education and access.” According to “*Briefing notes on critical gender issues in Sub-Saharan Africa (2005) improving in the women’s acquisition of resource may improve productivity in sub-Sahara Africa by at least twenty percent.* Among others, women’s education becomes important because the argument on women’s roles is not new but an enduring journey in agriculture. Tapping the knowledge that women have would mean or entail recognition of the roles they play in the production of sheep and goats sector of animal husbandry. It could also facilitate the implementation of policies and programs which countries adopted from the Beijing (China) conference on gender equality. According to Jensen, English, & Menard (2009) and Gustafon (2002) demographic characteristics in agriculture is changing and this has influence on the use of animal products thus affecting roles women play.

IFAD stated that there are four kinds of livestock systems in the traditional way of rearing livestock in sub Sahara Africa which are; the transhumant, agro pastoralist, intensive crops and livestock, and the peri-urban intensive systems. In each of these, women’s responsibilities in livestock production are categorized into: “no women involvement activities”, “processing animal products”, “managing and processing”, “managing and herding large livestock”. Based on these categories, women carry out at least more than three-quarters of the work available in livestock production.

It is also important to note that the “role” played by women in livestock keeping can be explained by sociological theories that enlighten on what people are expected to do and their attitudes towards work in livestock (Myers, 2004; Berth & Theron, 2000; Kossylin & Rosenberg, 2000). In essence, there are several theories in social psychology that may be used to understand roles of women in keeping and managing small ruminants. These may explain why women are into sheep and goats production. They are the: attribution theory, social learning theories and social schemas.

The social learning theory is based on Bandura’s understanding of how people learn through observation or role modelling (1984). Sheep and goats as a social and business enterprise can be started by women as a result of observing others in the family, paying attention to their operations, accepting and imitating the originator (Berth and Theron, 2000). There are different role models such as parents, older siblings, teachers, friends, leaders, television, movies and other things (Berth and Theron, 2000). Girls who decide to keep sheep and goats do so because of watching the television programmes and their mothers as practical and realistic models. This seems to be the tradition and culture for African women as these roles are passed on from one generation to the other. Thus, women continue to carry out or to be involved in different roles acquired through observation.

The schema theory is broad. It helps to explain that generally people have the tendency to categorize each other in social settings. In one situation of the schema theory people have their own way of thinking about themselves and about others. The self schema explains that women may think about themselves in keeping sheep and goats and see if they are motivated or not. Thus, the formation of schema is important because it influences whether or not the person can keep small ruminant animals (Berth & Theron, 1999).

The attribution theory is about the judgment people make of others, which has an influence on our own personality and hidden characters. What people perceive to be roles of women in small ruminants may be different from one’s judgment. It may also be different from one woman to the other in the same or different parts of the region. Thus the theory explains the error that may be found in people’s judgment about the bases of the roles played by women. Different African societies have different roles that they assign to women. Some societies believe that women can do light jobs while other people believe she can do any type of work.

The role a person assumes is a process which seems to be taking place gradually in stages. For example, the social learning theory assumes a role requires one to pay attention to people who are keeping sheep and goats in order to become a farmer. According to Berth and Theron (1999) this may be explained through a model called role episode which starts with mere observation followed by performing an activity.

Sheep and goats are important in the region of sub-Saharan Africa (Ademosun, 1992; Nsubuga, 1994). The population varies from one country to the other and within a country. According to Ademosun (1992) and Nwafor

(2004) the variations in the population distribution of small ruminants is influenced by ecological zones, culture, religion, gender, attitudes and education level. They have influence on roles played by women. For example, with regard to ecological zones, the highest population of small ruminants seems to be in arid areas, followed by semi-arid, last being the highlands. This may be true because in Botswana, a larger number of sheep were found in the desert environment than other areas (Nsoso & Madimabe, 2003). In Nigeria, even though small ruminants are kept by small farmers and are a secondary part of agriculture as compared to crop production, only forty percent is found in humid and semi-humid areas. This implies having a greater number of small ruminants in drier areas (Ademosun, 1992).

It is asserted that culture has a major part in influencing roles played by women in the sheep and goats sector. Culture as described by Shepard (2002) is all about people's way of living and that it can be passed from one age group to the other including "our patterns of thinking, feeling and behaving". That is, culture may hinder or enhance development depending on how it shapes our minds and thinking to believe that we have roles that we "can" and "cannot" perform in rearing sheep and goats. Shepard stated that:

Culture underlies human social behavior. What people do and don't do, what they like and dislike, what they believe and don't believe, and what they value and discount are all based, in large part, on culture. Culture provides the blue-points people in a society use to guide their relationships with others. [...] Human social behavior, then, is based on culture. And because culture is not innate, human behavior must be learned (Shepard, 2002)."

Unami (not true name) from Botswana was interviewed with regard to the traditional roles of women and this is what was recorded:

When I grew up my grand mother practiced mixed farming, growing crops and rearing livestock concentrating on the sheep and goats sector. She also kept calves transferred from the cattle post when their mothers had died. She was a farmer, with a considerable number (flock) of sheep and goats. Her flock of sheep was estimated to be slightly above sixty, and the numbers of goats were approximately half the number of sheep. My grand mother's daily activities in the home included milking goats, making sour milk, making sure sheep and goats were watered, ensuring young ones (lambs & kids) were separated from their mothers before they were sent out to graze, ear marking, dipping, and castrating the young ones. In addition she made sure the family had food and other basic necessities for living. She practiced subsistent farming and encouraged family members to go into farming. On the other hand my grand father concentrated on cattle as he spent more time at the cattle post and also managed their traditional boreholes which still exist today. Our neighbours were my mom's cousins who had a bigger flock of sheep and goats, twice the size of ours. The old woman, Mrs M (not true name) was the care taker performing all the activities similar to those conducted by my grand mother. Her husband who owned a tractor, general dealer store and Chevrolet pick-up vehicle frequently drove to the cattle post where they had a large herd of farm animals like cattle and horses. In another experience,

Mrs. John (not true name) from Ghana shared her experiences. She indicated that she grew up in urban areas where her mother was employed by the government as a teacher. Her grand mother who stayed in rural areas had five goats and is the one who provided them with milk from sheep.

Generally, women have been associated with house keeping while men were associated with the cattle post or ranch farming. As boys and girls grew, they tended to assist at home looking after small livestock with their mothers and then the boys would switch to join their fathers at the cattle post when older. In the Botswana context, roles have been defined by gender and that continues to exist in the society. The question is why is the role of a woman the rearing of sheep and goats?

Religion is another factor that influences women's roles in sheep and goats rearing. Shepard (2002) stated that there are five concepts which characterize religion. These include beliefs, ritual, intellectuality, experiences, and have consequences for roles played by women. A person who is religious sees everything in terms of the "spiritual" beliefs. In this regard, belief goes with the relationship one believes to have with God or Allah on what a person does. Such people "can forsake things and needs, but may see economic activities as service to God and acquisition of earthly things as a gift from God" (Berth & Theron, 2001 p. 196). In Botswana for example, there is a new traditional religion in Marobela village in the central district believed to originate from Zimbabwe, which preaches the theory that

influences its followers not to eat goat meat. This goes with certain beliefs which followers of the religion have developed. It has influenced women not to keep and use goat products.

Gender bias is another factor associated with the roles of women in sheep and goats production. Gender roles were socially and culturally defined prescriptions and beliefs about what and how people should do things. Gender roles and stereotypes affect women in other ways. For example, in the SSA women have been judged on how well they cut grass to feed sheep and goats at home, milk and process milk into products such as sour milk, butter and processing hides and skins. People's attitudes in terms of feelings, thinking and actions are important. There is a positive relationship between attitudes and what people value. Women seem to like their roles in sheep and goats.

Literacy has been found to influence people's perception of things and businesses they do. Sheep and goats as an enterprise in the field of animal production will require adequate education. They generate funds when required and income to sustain a family. As stated by IFAD majority of women in the region are not very educated. If they were, more would result from their activities since they would calculate their profit for livestock and employ more scientific methods in managing their stock. This will lead to poverty alleviation in the society. For example a yearling sheep costs about BWP800 in Botswana which is equivalent to US\$100. A family with 500 flock with 10.0% off-take will be marketing 50 animals annually raising BWP40, 000 (equivalent to USA5000) which is a substantial amount of money. A well managed flock will have about 50% birth-rate which implies 250 lambs yearly to this farm (Botswana Government, 2007).

## **METHODOLOGY AND PROCEDURES**

### **Design of the Study**

This was a descriptive desk research design. Literature review was conducted to examine the roles played by women in sheep and goats in the sub-Saharan Africa. The method used in this study to review literature was a three-stage approach suggested by Levy & Ellis (2006). The approach required the researcher to (1) identify appropriate relevant resource materials from peer reviewed journals, and recognized organizations, (2) read process and screen the literature for quality assurance, and finally, (3) produce the review. Levy & Ellis alluded to the fact that the use of peer-reviewed literature and other materials can provide reliable, consistent and valid data for use in research.

### **Procedures**

To ease the review and analysis, the researcher considered the four regions of the sub-Saharan Africa according to the geographical location of countries on the map. These were: central, with five; east, with ten; south, with nine, and west, with sixteen countries. Data in the form of government documents, scientific papers and reports from recognized organizations such as the International Fund for Agricultural Development (IFAD), Livestock Research in Rural Development (LRRD), and the central statistics reports for Botswana government were identified and reviewed. The roles played by women were identified on the basis of systems of livestock management: the transhumant, intensive crop and livestock, peri-urban, agro-pastoral and intensive farming. The demographic characteristics of women involved in sheep and goats were also described.

### **Population Sampling**

This was a census study where all forty one countries in the sub-Saharan Africa region were included in the studied. Secondary documents on small livestock production accessed through the internet and other sources were reviewed.

### **Analysis of Data**

Content analysis was carried out involving summarizing, synthesizing, analysing and evaluating. The secondary data as described by Ben (1995).

## RESULTS AND INTERPRETATION

Results of this study are presented in tabular forms and narrations. The results are based on content analysis and interpretations of the contents from reports, journal articles and government and non-governmental organization documents.

In table 1 the education of most women in sheep and goats was found to be moderate to low. This could be true since most of the

Table 1: Demographic characteristics of women in sheep and goat

| Characteristics      | Level                        | How achieved  | Sources  |
|----------------------|------------------------------|---|--|
| Education            | Moderate to low education,   | Role modelled, academic and vocational trained.   | Misra et.al. (2007)                                      |
| Socioeconomic status | Moderate to low              | Related to their needs in short and long terms;<br>-employment<br>-labourers<br>-Part of their life | Antonio Rota (April 2010)                                |
| Ownership            | Yes, with variations         | Inherited from parents  | Oladele & Monkhei ( 2008)                                |
| Age                  | Ranging from youth to adults | -   | Kamel, et.al. in <i>Reij, &amp; Waters-Bayer</i> (2001). |
| Family size          | large                        | Supported through sheep and goats   |  |
| Marital status       | All status                   |   |  |

Source: Adapted from literature on characteristics of women

Table 2 presents descriptions and interpretations of roles of women in sheep and goats for each system of keeping livestock and countries where specified as summarized from different literature and personal interaction with people of different countries in Sub-Saharan Africa. The roles were identified and specifically described as to what women do under each system of rearing sheep and goats. The results show that Botswana women are found at all systems of farming. The transhumant system being the most primitive and the peri-urban being the most advanced farming system.

Table 2: Roles of women based on farming systems practiced by countries

| System                      | Description of roles in sheep and goats  | Country   |
|-----------------------------|--|---|
| Transhumant                 | Herding and management; Management of small ruminants; Milking, procuring, processing of milk Slaughtering, housing, Health; Cutting feedstuff for livestock   | Algeria, Niger, Mali, Botswana, Uganda, Somali, Sudan             |
| Agro pastoral farming       | Ownership of small livestock; Women work longer hours than men, Control diseases, Milk processing; Dairy production, Feeding, Serving as labourers, conduct special roles, Herding, Vetting, Shepherdess, Managing | Kenya, Nigeria, Sudan (Darfur), Niger, Uganda, Botswana, Tanzania |
| Intensive livestock farming | Own farms  | Botswana, south Africa, Nigeria.                                  |
| Peri urban                  | Women in urban areas engage in livestock to supplement salary, small enterprises   | Zimbabwe, Botswana, South Africa                                  |

In table 2, identified roles performed by women in rearing sheep and goats were described in terms of why women perform the task during management.

Table 3: Specific women's activities in sheep and goats management

| <b>Role</b>          | <b>Reason for carrying out the role</b>  |
|----------------------|--|
| Housing livestock    | Constructing shelter to protect livestock from predators, harsh weather, and poachers.   |
| Feeding              | Cutting plant materials to supplement where necessary to promote and support growth, multiplication, milk for family consumption, for meat production, and for ceremonial reasons. |
| milking              | Carry out hand/machine milking of sheep and goats by hand to feed the family, process into products, to foster kids without their mothers and for marketing fresh milk             |
| Laborers             | Serve as care takers, perform special role, controlling diseases, watering, and work in the field at the same time with sheep and goats.   |
| Processors           | Process meat into biltong, milk, skins and hides, manure into energy and artefacts to preserve the product   |
| Workers              | Life activity as a family member   |
| Managers of projects | Intuition to benefit all   |
| Value for livestock  |  |
| Employment           |  |
| Division of labour   | Employed by other women to work in sheep and goats specialization  |

A case of Ethiopia as described by Moses (2006) women is knowledgeable in at least 87.5% of the different tasks performed in sheep and goats production. They lack knowledge on only 12.7%. This implies that women perform similar roles to those performed by men on sheep and goats rearing.

Table 4: Women's knowledge on randomly selected management activities

= Yes: ×= No

| <b>Role</b>                            | <b>Girls/women</b> | <b>Boys/Men</b> |
|--|--------------------|-----------------|
| Herding                                | ✓                  | ✓               |
| Hygiene                                | ✓                  | ✓               |
| Doctoring and daily care               | ✓                  | ✓               |
| Gynaecology, birth, nutrition, anatomy | ✓                  | ✓               |
| Feeding                                | ✓                  | ✓               |
| Watering                               | ✓                  | ✓               |
| Use of products                        | ✓                  | ✓               |
| Cattle farm                            | ✓                  | ✓               |
| Cattle posts                           | ✓                  | ✓               |
| Breeding                               | ×                  | ✓               |
| Marketing                              | ×                  | ✓               |
| Daily care                             | ✓                  | ×               |
| Reproduction                           | ✓                  | ×               |
| Cut-and-carry pasture                  | ✓                  | ×               |
| Fattening                              | ✓                  | ×               |
| Milking and processing                 | ✓                  | ×               |
| Fermenting milk                        | ✓                  | ×               |

Source: Moses (2006) Amarew Project, sheep and goats

### Implications and Conclusions

Although the miscalculation of roles of women in the rearing of sheep and goats is noted in the agriculture sector, it is not however receiving the recognition it deserves.

It is argued that recognition of the role of women in the small ruminants sector of the animal industry is important as a way to motivate and encourage women in poverty alleviation issues. The study also suggests that the



demographic characteristics of women involved in sheep and goats rearing are important. Further research may be important to describe their demographic characteristics.

Women play significant roles in domestic and national development because they own and manage livestock. Based on the review of literature, it was found that roles carried out mainly by women are more of an inherited and acquired characteristics because they tend to be modelled by other people. The roles played by women are not different from men's roles. However, women's knowledge in sheep and goats seem to compare fairly well with those of men.

Table 3 above shows that women in Ethiopia outperform men in some aspects of farming. This is important as something that can be used to encourage women in other countries like Botswana to be confident in undertaking their agricultural pursuits—they know that women elsewhere have done well so there is no reason why they should not. The results also show that women in Botswana are capable of performing positive roles at all levels of farming. The performance of women in the agricultural sub sector under consideration is evidence that women do positively contribute to the economy of the region and therefore supporting their involvement can actually improve the economic conditions of the region.

The evidence suggests that more credit is due to women and therefore there is a moral imperative to acknowledge their contribution.

## Recommendations

Women's functions in this industry should equally be recognized to those performed by men in the same sector if the desire is to see reduction of poverty in the sub-Saharan Africa by 2020 and beyond. Recognition of women's involvement and contribution should include the creation of a conducive environment for the industry at this level to thrive. Women need to be supported financially, socially, politically and culturally.

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