

*Full Length Research Paper*

# **Gender role in peri urban dairy production system of Ambo town, Ethiopia**

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**Though dairy is a common farming enterprise and income-generating activity in Ambo town, no systematic study has been undertaken to identify the gender role in dairy production. The objectives of the study were to identify gender role in dairy activities; and to analysis gender participation in production and marketing of dairy products. It was found that women are mainly responsible for barn cleaning, milk selling, processing and feeding, where as male undertakes shed construction, feed storing and animal health treatments. In addition access and control for income of live animal sale is mainly to male. Dairy production is indispensable sector to fulfill the need of every growing human population. Hence, combined effort of gender is very important for the sector to be more profitable enterprise.**

**Key words:** Dairy production, gender role, peri urban.

## **INTRODUCTION**

Women in Africa play an important role in agricultural production but they are more often considered as family assistances on farmland belonging to their husbands who have a correspondingly enhanced status. In general, women produce over 50% of the food that is grown worldwide more in most developing countries. In sub-Saharan Africa, women produce around 80% of food, both for household consumption and for sale. Women are usually responsible for food processing and also make a major contribution to food storage, transportation and marketing although they seldom control the revenue generated (FAO, 1998). There have been few studies concerning women in Ethiopia, but many observers have commented on the physical hardship that Ethiopian women experience throughout their lives. Such hardship involves carrying loads over long distances, grinding grain manually, working in the homestead, raising children, and cooking. Ethiopian women traditionally have suffered from socio-cultural and economic discrimination and have had fewer opportunities than men for personal

growth, education, and employment. Over 85% of Ethiopian women reside in rural areas, where peasant families are engaged primarily in subsistence agriculture. Rural women are integrated into the rural economy, which is basically labor intensive and which exacts a heavy physical toll on all, including children.

A study on the role of Ethiopian rural women in livestock and dairy industry indicates that women look after the household possession of cows, calves, sheep and poultry, churning milk for the preparation of cheese and butter is solely the women's job. They are both producers and they are also active participants in the social, political and cultural activities of their communities. They are also actively involved in livestock and crop production most activities related to livestock production seem to be fairly share among the household members, the whole analysis depicts that women are operating under a heavy work load as they are assumed to perform most of the routine and laborious livestock management activities (Berhanu et al., 2006). Livestock production is highly gender sensitive and different household members perform different functions with varying extents. Therefore, this study is aimed at identifying the role of gender in different dairy activities; and to analyze gender

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participation in production and marketing of dairy products.

## **MATERIALS AND METHODS**

### **Area of the study**

The study was conducted in Ambo district, west Shewa zone of Oromia Region (Ethiopia) at about 114 km from capital city. It is located in the western part of the country (8°47'N-9°25'N and 37°32'E-38°3'E) on the road to Nekemte.

### **Sampling techniques, data collection and analysis**

Purposive sampling was employed to identify Kebeles in which dairy production is practiced. Four Kebeles with more dairy cow population were selected purposively. The total sample size for the study was 80 respondents.

The data were collected from dairy husbandry and extension workers of the district using structured interview schedule, observations and personal interviews. The tools for data analysis were descriptive statistics and Harvard analytical framework

## **RESULTS AND DISCUSSION**

### **Socio-economic background of respondents**

About 85% of the respondents were married and only 15% of them were widow. During the study period different ethnic group of people were interviewed. Accordingly, the respondents were from Oromo, Amhara and Tigre, which accounts 80, 15 and 5% respectively. In relation to religion about 75% of respondents were orthodox and 25% were protestants. About 90% of respondents attended formal education and only 10% did not attend formal education. Among the respondents 75% of them had land for cultivation and pastures near the town. The remaining 25% of reported that they depend on purchased feed (hay, straw agro-by products) entirely.

### **Income and expenditure by gender**

Men and women in the Ambo town have different sources of income, which also vary in the form and type. About 30% of women respondents earn income from sales of livestock products; and the remaining 70% of the respondents earn income from land cultivation. Where as 65% of males earn income from sell of animals and 35% of them earn income from land cultivation. About 90% of respondents start dairy production by purchasing and 10% of them started dairy production through purchasing and inheritance. Among the respondents 90% of them reported that they used the income they obtain from milk and milk products to purchase feed for dairy cows, pay school fee for children and accessory material for home

consumption, in order of their importance. The balance 10% of the respondents used milk to consume in the home.

### **Gender division of labor in dairy activities**

#### ***Shed construction and herding***

Among the dairy activities, male, female and employee undertook shed construction, which account 75, 20 and 5% respectively. The majority (85%) of respondents reported that they only keep their animals in the barn and the remaining (15%) used partition of their house. Proportion of using partition of the house is in line with Dereje and Tesfaye (2009) study that indicated 12.8% of the respondents keep their animal in partition from their house.

#### ***Watering, feeding and feed collection***

Almost all of smallholder dairy owners in Ambo town reported that they give tap water for their dairy cows. Whole members of the family except father, who sometimes participate in this activity, undertook watering activity. About 85% of respondents indicated that there was no grazing land for their cows and instead they purchase crop residue and hay. Additionally 95% of the respondents purchase concentrate for their milking cows and the balance 5% did not use at all.

As indicated by respondents instead of concentrate they give some conventional feed like 'atela', residual of local drink for their milking cows. About 85% of respondents reported that they purchase the grass from around the town and they store it in the form of hay in the October and November. About 86.5% of the respondents reported that this activity was undertaken by male (Table 1). Similar result was also reported by Samuel et al. (2009) who identified that feed collection is a routine work of males.

#### ***Milking and processing***

About 90% of the respondents indicated that females are responsible for milking and this division for labor is the same for both the households headed (Table 1). Some of dairy farm owners (10%) reported that employee undertook milking activity. The majority of women (80%) reported that milking was always carried out twice a day, in the morning approximately 7 to 9 am and in the afternoon approximately 3 to 5 pm. The remaining 20% explained that at the peak of milking period that is when the feed was ample milking frequency was three times a day. However milking frequency was reduced to once a day in dry season and when dairy cow was on the way of

**Table 1.** Division of labor for dairy by gender.

No	Activities	Husband (%)	Wife (%)	Male child (%)	Female child (%)	Employee (%)
1	Shed construction	65	15	10	5	5
2	Feeding	20	65	5	10	0.0
3	Watering	10	30	30	30	0.0
4	Realizing live stock for grazing	15	35	30	20	0.0
5	Milking	0.0	75	0.0	15	10
6	Processing	0.0	65	5	30	0.0
7	Selling	0.0	45	10	45	0.0
8	Shed cleaning	0.5	52.3	4.5	30	6.7
9	Feed storing	51.5	5	35	3.5	5
10	Animal health treatment	55	35	8	2	0.0

drying or stop giving milk. It is in agreement with the study of Lemma et al. (2005) who reported that milking was mostly performed twice a day in three districts of east shoa zone of Oromia. With the exception that during the dry seasons, milking operations is limited to once per day (lemma et al., 2005).

About 75% of respondents' process milk to butter and 25% of them did not process milk. Most of respondents indicated that, they use processed products in home consumption. According to respondents, 95% of processing activity was done by female member of the family (Table 1).

### **Milk and milk product marketing**

In the study area respondents reported that there is no formal channel for milk marketing. As a result dairy farm owners practice informal milk marketing system. They sell their products informally to milk collectors, hotels, neighbors, and direct consumers. Zegeye (2003) and Lemma et al. (2005) came with the same conclusion that both rural and urban milk is distributed from producers to consumers through the informal (traditional) means. The authors also added that dependable system is not developed to market milk and milk products in Ethiopia. About 45% of the respondents sell fresh milk to collectors, 45% to neighbors and hotels, and 10% consumed at home. Smallholder dairy farm owners in Ambo town reported that female members of the family undertook about 90% of milk selling activity (Table 1). Male child undertook the balance 10% of the activity. It is in agreement with the report of Samuel et al. (2009) that indicated female members are responsible for marketing of animal products than male members of the family.

About 45% of smallholder dairy farm owners in Ambo town indicated that they sell one liter milk to 5.50 Ethiopian birr for collectors. And 45% of them sell to neighbors for the peoples who have infant or baby with the price of 6 Ethiopian birr/litter

### **Live animal marketing**

In the study area it was observed that in male household headed, they undertook marketing of live animals. Where as where there is female household headed live animal marketing is the responsibility of women and elder male members of the family.

### **Shed/ barn cleaning**

Urban and peri-urban dairy production systems need regular cleaning of barn due to shortage of land. Where there is enough land, rotation of temporary barn is possible as it is practiced in rural areas. In the study area about 82.3% of the respondents indicated that barn cleaning activities was undertaken by women, 11% of them indicated that all family members participated in cleaning activities and only 6.7% indicated that shed/barn cleaning was done by employee (Table 1). Similarly Samuel et al. (2009) indicated that about 90.3% of barn cleaning is the responsibility of female members of the family.

### **Livestock health treatment**

About 40% of the respondents in Ambo town reported that they did not give vaccination for their cows against any diseases. The remaining 60% reported that they annually vaccinate their animals to prevent some disease once a year as prescribed by veterinarian. It is in agreement with the study of Tamirat (2009) that reported the majority of the respondents annually vaccinate their animals against anthrax and blackleg. In the study area most of the respondents also indicated that they treat their animals by using traditional medication like ginger, garlic onion and hot paper. About 95% of owner's reported that they purchase veterinary drugs from the town. Some of the respondents reported that external parasite like ticks are the major constraints for their dairy cows. About

**Table 2.** Small holder dairy farm owners' responses on access to and control over livestock and their products by gender using the Harvard analytical framework.

No	Major resources/ benefits	Men headed	Women headed	Boys	Girls
1	Access to sale milk	—	****	*	****
2	Access to collect in come from milk	**	****	—	—
3	Control of income from sale of milk	**	****	—	—
4	Access to sale cattle	****	****	—	—
5	Control of income from sale of cattle	****	****	—	—
6	Access to by cattle	****	****	*	—
7	Ownership of cattle	****	****	—	—
8	Ownership of land	****	****	—	—
9	Access to buy feed for animals	****	****	*	*
10	Access to drink milk	****	**	**	*

\*\*\*\* =full access and control. \*\*\* =intermediate access and control, \*\*= some access and control, \* = Limited access and control;-=no access and control. N.B- for rows 4-8 women access and control is \*, \*\*\*, \*, -, respectively in male headed family.

95% of the respondents reported that they took their cows to veterinary service center and only 10% reported that they call veterinary service provider to their home. These activities were undertaken by males (63%) and 37% done by females (Table 1). Major health interventions for sick animals were tradition medication (87%). likewise, Ulfina et al. (2006) reported that farmers use different cultural practices such as spices mostly ginger, garlic, hot pepper, tobacco leaves and butter, salt and feaces of hyena for treatment of internal parasites and mastitis.

### Livestock breeding management

About 22% of the respondents reported that artificial insemination (AI) service was available but they perceived as it had no value. About 25% indicated that it is valuable and they use it as the best breeding method. The remaining 53% reported that they use natural breeding methods by unknown pedigree bull for natural service. Also Ulfina et al. (2006) and Tamirat (2009) reported that the smallholder farmers mostly rely on use of communal bulls of unknown pedigree.

### Trends of different types of cattle

In the study area different breeds of dairy cattle were reared. Most of the respondents (60%) keep local indigenous cattle, 35% of them keep cross breed cattle and only 5% keep Holstein Frisian. The trend of five years (Figure 1) indicates that the respondents had more or less equal number of cattle. About 55% of respondents have cattle number 1 to 2, 25% of respondents 3 to 4 and 20% of respondents' had 5 and above cattle numbers. the majority (94.5%) of small holder dairy farm owners

indicated that due to shortage of land and feed for dairy cattle it is impossible to keep above 3 or 4.

### Access, control and ownership over livestock resources by gender

In our study about 65% of respondents indicated that the access and control for income of animal sale is to male in male household headed and 35% of them indicated that, it is to female In female household headed, however, access to control milk products is totally the responsibility of female in both households (Table 2).

### Major factors affecting women's participation in dairy production

In the study area, there are many factors that limit women participation in dairy production. The following are the major ones, shortage of land for shed /house, lack of grazing land, poor feed resources, feed shortage, climatic change, lack of income, capital, diseases and parasites, lack of awareness, culture, etc. Most of respondents (85%) indicated that shortage of land and high cost of feed hindered having high numbers of dairy cattle. Similarly Samuel et al. (2009) reported that the major constraints to livestock production in the Ada liben district were feed shortage, land shortage especially un availability of grazing land, and genetically low productivity of the local animal breeds, in their decreasing order of priority.

### Conclusion

In peri-urban dairy production system women's are primarily responsibility for milking,barn/shed construction,

### Trend of livestock population (%)

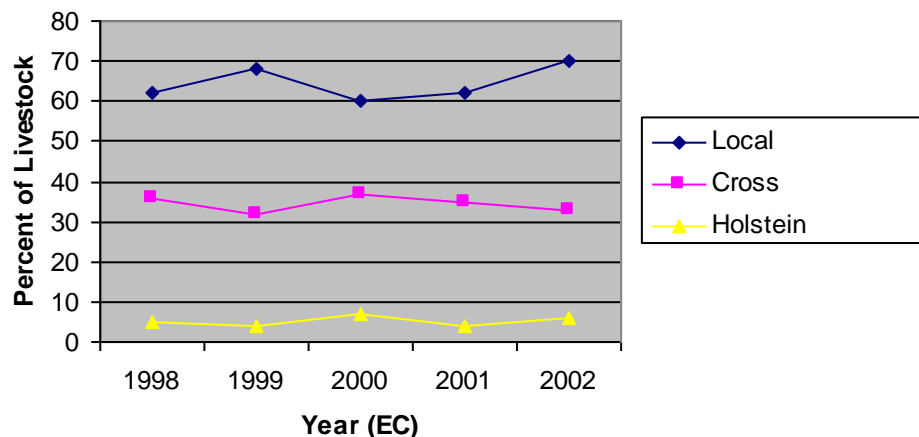


Figure 1. Trends of number of cattle owned.

marketing, processing and watering. While men purchase or search for feed and veterinary drugs. Combined effort of gender is very important for the sector to be profitable. Regarding its valuable contribution to the economy of country at large dairy production is indispensable sector to fulfill the need of every growing human population. So to strengthen this sector many actors would be involved for exploiting the existing potential of the sector.

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