



Opportunities and Challenges of Women in Milk Value Chain Development: The Case of Batie and Adelle in East Hararegie Zone, Ethiopia

Zelalem Desalegne*

Lecturer at Haramaya University Gender and Development Studies Department, Mobile +251912175612

Email: eleniada44@yahoo.com

Abstract

Ethiopia's agricultural sector has witnessed consistent growth since 2003. Mainstreaming gender in milk value chain development requires paying constant attention to the gender perspective at every step. The purpose of the research was to undertake an in-depth assessment of the policy environment and the different activities that women undertake in milk value chain development. The study has followed sequential research design. Initially two kebeles/ districts were selected through area cluster sampling. The respondents were selected through systematic random sampling technique, interviewees and FGD members were selected purposefully. The data was analyzed through descriptive statistics and narrative analysis. The study area is marked by low quality of milk. This was due to: small herd size, poor reproductive performance, limited access to feed and water, lack of functional animal health services, and low-quality cattle. Such problems are more severe on women found under the study area.

Key words: Development; Milk; Pastoralism; Value chain; Women.

* Corresponding author.

I. Introduction

1.1. Background of the Study

Ethiopia's economy is based mainly on agriculture, including crop and livestock production, which contributes 45% of the national Gross Domestic Product (GDP), more than 80% of employment opportunities and over 90% of the foreign exchange earnings of the country. Ethiopia's agricultural sector has witnessed consistent growth since 2003 till it showed great decrement in 2015: maize production has expanded at 6 percent per annum, and the aggregate export value across all commodities has grown at 9 percent, underpinning an 8 percent annual growth rate in GDP. Agriculture is therefore, an important driver of the nation's growth, as well as its long term food security. However, the Ethiopian economy, particularly agricultural development, is extremely vulnerable to external shocks like climate change, global price fluctuations of exports and imports and other external factors [1].

Ethiopia stands first in Africa and tenth in the world in its livestock population. However, the country is not economically benefited out of this huge untapped resource in the extent at which it ought to be. Consequently, the Ethiopian people in general and women's livelihood in particular are vulnerable to different natural and artificial shocks. Other impediments such as traditional practices, lack of knowledge about milk cow rearing and milking up to milk processing and marketing, lack of appropriate marketing channel and limited degree of response that resulting weak market integration are among the constraints which affect women not to get the required amount of milk and milk product. Supporting women to engage in different income generating activities including marketing and processing of milk products could be a means to build their resilience against the shock they are facing [2].

1.2. Statement of the Problem

Ethiopia's total livestock population has reached more than 88 million in head count, and is the largest in Africa. The sub-sector has economic and social importance both at the household and national levels, and have in the past provided significant export earnings. Livestock contribute 15 to 17 percent of GDP and 35-49 percent of agricultural GDP, and 37-87 percent of the household incomes: the large variations are due directly or indirectly to climatic variation [2].

Livestock in pastoralist areas of Ethiopia have multiple uses aside from income generation, including cash storage for those beyond the reach of the banking system, draught and pack services, milk and meat for household consumption, fuel and manure for fertilizer. In addition to these non-market values, a thriving informal export trade in live animals further emphasizes the significance, albeit unrecognized by official statistics, of livestock (and particularly cattle) in the Ethiopian economy. This importance is pronounced in pastoral regions, and women's crucial role is widely acknowledged: both directly in primary production, and indirectly through the contribution of livestock to household assets and food security [2].

Milk value chain development is progressively being integrated into pro-poor development programmes to increase the benefits to producers. Mainstreaming gender in milk value chain development requires paying con-

stant attention to the gender perspective at every step, from milk production to the sharing of benefits. It is not unusual for women to play a key role in milk production and processing, but for their contribution to remain unacknowledged because their work is unpaid. Integrating a gender approach into milk value chain development should contribute to identifying the proper support to offer to the different people involved in the process [3].

Milk is one of the most important livestock products among the pastoralists in the different pastoral communities. It is the main diet for pastoralists. Milk production from milking animals (Cattle, camels, sheep and goats) is influenced by their population and distribution, and the availability of natural pasture and water. Besides, types of animal breeds, the composition of milking animals in herd and etc are the most important factors influencing milk production in the pastoral systems. The milk production also directly correlated with the environmental situation [3].

Due to traditional gender roles, men and women usually perform different activities in milk value chain development. In general, women are involved in the collection and production (in milking and traditional churning) of the primary products, often in their own locality with no or limited monetary gain. Men are usually more involved in activities that are linked with monetary transactions such as processing and trading of products in distant locations. Value chain mapping helps to determine the involvement of men and women in different steps of the value chain. It also provides information on women's and men's involvement and contribution at each level. This information is useful in developing programmes targeting and working with women and men to upgrade people's capacities by adding value to the product [4].

Pastoralists in Ethiopia are found in seven regions including Afar, Somali, SNNP, Oromia, Diredawa, Benshangul Gumuz and Gambella Regional States. The main livelihood systems include Pastoralism, farming and ex-Pastoralism – those who have dropped out of Pastoralism and now survive on petty income-earning activities. Pastoralists constitute a minority in Ethiopia, with an estimated 12–15 million people (14% to 18%) out of the total population of 83 million people [5].

Ethiopia's total livestock population has reached more than 88 million in head count, and is the largest in Africa. The livestock sub-sector contributes an estimated 12% to total GDP and over 45% to agricultural GDP. On average, the pastoral livestock population accounts for an estimated 40% of the total livestock population of the country. IGAD estimated in 2010 that pastoralist livestock makes up 30% of the nation's cattle, 70% of the goats and sheep and all camels in the country [5].

It is estimated that about 10.5% of pastoral animals are involved in livestock sharing networks. By using this figure as a benchmark and IGAD estimated that pastoralist livestock contributes 35 billion ETB to the national economy, the collective insurance value of pastoral herds can be estimated at 3.7 billion ETB in 2008-2009. The pastoral livestock population also contributes to transport services and provides products such as milk, meat, skin and hides, though the value of these components has largely been underestimated [5].

To this end the study was planned to identify the role of women in milk value chain development to maximize their income in a sustainable way and consequently improve their way of life. To this effect, the value chain

development for milk and milk products was tried to identify the actors along the chain, their relationship, and factors affecting them and leverage intervention points which affect the milk value chain development.

2. Materials and Methods

2.1. Research Design

The study has employed sequential research design (explanatory sequential design). Data collected through questionnaire has been manipulated quantitatively through percentage, and frequency. Moreover the data graphed and tabulated explained briefly to show the findings of the research.

2.2. Sample Size and Sampling Technique

To easily undertake the research different sampling techniques were employed. Initially two kebeles/ districts were selected through area cluster sampling technique. The list of individuals was taken from the kebele /district/ development agents. Then, samples were taken through systematic random sampling technique. Among 360 respondents of the questionnaire 270 or 75% were female responders and the rest 90 or 25% were male. This was done to acquire the detailed constraints that females are facing in their day to day participation across the chain and to identify the different activities on which women are engaged in milk value chain development.

Six interviewees (three per kebele) were selected through purposive sampling technique. Two FGDs (one per kebele) having 10 members (eight women and two men) was carried out. These FGD participants were selected through purposeful sampling technique. The researcher himself has undertaken the FGD as a moderator to minimize the potential errors and loss of ideas with the aid of Afan Oromo translators.

2.3. Sources of Data

To gather the necessary information, the study has employed mixed research approach (both quantitative and qualitative method of data collection). Thus, primary and secondary data collection methods were employed. To gather primary data questionnaire, interview, focus group discussion and field observation were employed whereas, to gather secondary data different literatures, books, brochures, annual & biannual reports, and researches conducted by different scholars were used.

Recruitment and Training

To ease the data collection process four (two from each sub-districts) data collectors were selected and trained about how to take representative sample and sampling techniques, how to distribute questionnaires for the appropriate respondents and collect data collection tools. These data collectors were trained for one day to minimize the marginal errors of data collection. After accomplishing the training twenty questionnaires (ten per sub-district) were distributed for pre-test. Accordingly, the final version of the instrument was re-corrected and modified.

2.4. Data Analysis

After the data was collected through different data collection tools; it's edited, coded and entered the computer soft ware (SPSS version 20) for analysis. The data organized and the analysis and interpretation of data started to determine the validity and reliability and the achievement of the already identified problem with the purpose of the study. Hence, the researcher used different types of data analysis techniques.

The quantitative data was analyzed through percentage, descriptive statistics, mean, median, and standard deviation method where as the qualitative data was analyzed through narrative analysis. The narrative analyses was also show widely-held views and explore the varying perspectives on women's activities, their challenges and opportunities in milk value chain development.

3. Result and Discussion

3.1. Background Information of Survey Respondents

Respondents' background information is important for the interpretation of the findings and to easily understand the result. Hence, this chapter provide general information of survey respondents.

Age Classification of the Respondents

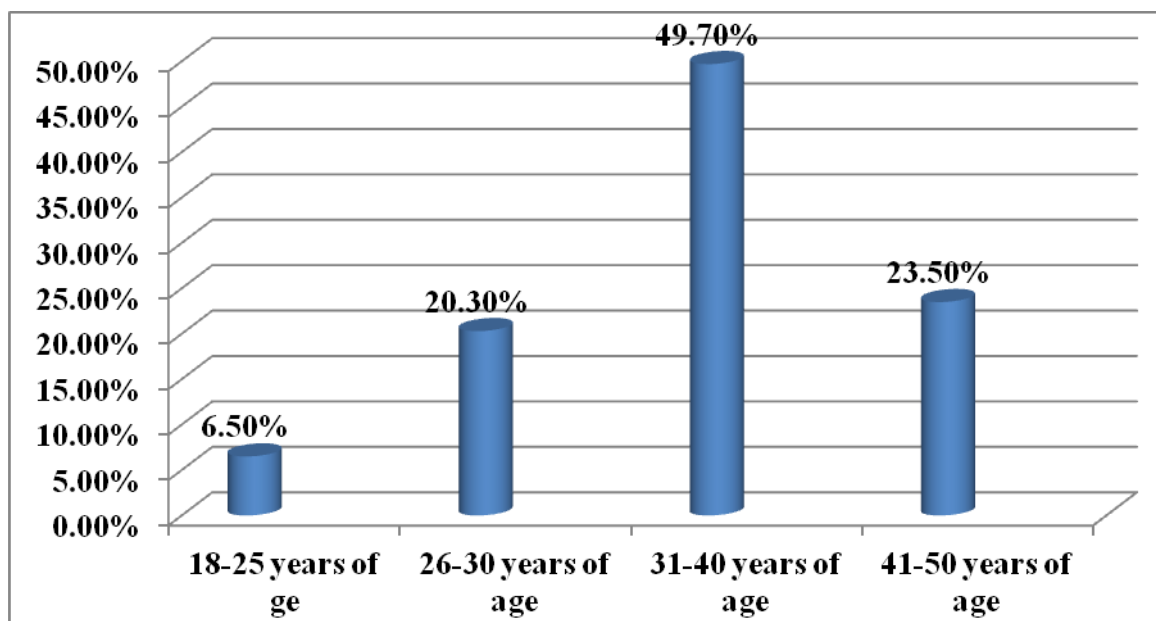


Figure 1: Age of the respondents

The survey respondents participated in the study was within the age range of 18-50 years. Thus, 6.5% were within the age of 18-25, 20.3% were within the age of 26-30, 49.7% were within the age of 31-40, 23.5% were within the age of 41-50 years. The primary data also revealed that most of the residents who are found in the study area are Muslims who constitutes about 69.3%, Orthodox Christians 25.5%, catholic 3%, protestant 1.5%,

and others 0.7%.

Education Level

Survey respondents were asked about their educational status to understand women's role and level of participation in milk value chain development. As a result, about 37.7% were illiterate, 38.3% attained adult education (read and write), 16.3% attained 1-4 grade, 4.6% attained 5-8, only 2% of the respondents attained 9-10 and 1.1% attained 11-12.

Marital Status

The current marital status of the survey respondents was 69.4% were married, 21.7% were divorced, and the remaining 8.9% were widowed.

3.2. Pastoralism in Ethiopia

Drought routinely affects pastoral areas. There are differing views as to why pastoralists in Eastern Hararaghe have become more vulnerable to the effects of drought. The Eastern Hararaghe pastoral systems have vegetation and livestock populations that are largely controlled by rainfall. They associated increases in livestock population with high precipitation, and a decline in the population due to decreasing access to vegetation and water resulting from low rainfall. Thus, the livestock productivity in general and milk production in particular in the area mostly depends to annual rainfall variation, which has a direct effect on availability of vegetation and water for livestock.

According to the respondents of the interview, in the study areas /Batie and Adelle/ it is not only the annual rainfall that drops down the cow's milk production, but also the interaction between the livestock population density and forage resources, unavailability of concentrated feed, crop residues, industrial by-products (no trend of feeding such by-products for their animals) that affects the livestock milk production. As a result of feed shortage, livestock die off due to drought is likely to happen when the livestock density exceeds a certain threshold. Whatever the case may be, it is evident that more and more pastoralist households, especially the poorer and women headed households are increasingly affected by severe drought. The study sites are all rounded by pastoralist areas where they share some behaviour of the pastoralist communities with regard to milking and milk production, livestock management and take care.

Rural women are integrated into the predominantly agricultural economy, which is labour intensive and exacts a heavy physical toll on all, including children. Land reform did not change their subordinate status, which was based on deep-rooted traditional values and beliefs. An improvement in economic conditions would improve the standard of living of women, but real change would require a transformation of the attitudes regarding women.

Even though women are making a significant contribution for milk production enhancement in the study area, they usually have no or limited access to and control over land, livestock, farms, and capital, which constrains them not to fully exert their labour to the sector.

Men play a key role in the management of high value livestock enterprises. They are responsible for tasks that require networking, generate great deal of money, less labour intensive, and activities outside the home, such as accessing information, breeding, rearing and animal health, particularly in terms of accessing modern health services. They are also involved in heavier manual activities like housing and slaughtering.

Women in the sector are typically engaged in activities related to the safety and wellbeing of the livestock that are performed around the homestead and are labour intensive, such as collecting animals dung and maintaining hygiene. They are also involved with activities closely related to their household chores, milking, butter churning and are often responsible for storing, processing and adding value to the livestock products. The tasks of feeding and watering livestock are often shared and other household members may also participate.

Milk has economic importance for women both at the household and market levels. This importance is pronounced in the study areas where milk is highly consumed by the family, and nearby university /Haramaya, Dire Dawa and Jigjiga Universities/ communities and women's crucial role is widely acknowledged: both directly in primary production (milking), traditionally churning, and marketing it to the nearby market and indirectly through the contribution of livestock to household assets and food security.

3.3. *Livestock Production in the Study Area*

The study on value chain development focused on identifying opportunities and bottlenecks of women in the milk value chain development. The respondents of the questionnaire were asked about why the current cow rearing and production system is unable to supply sufficient quantity of milk and generate income from milk marketing, despite substantial milk demand in the nearby towns (Deri Dawa and Harar). This is because; in the one hand these areas milk produced is used for domestic consumption and milk selling is considered as a shame and transgress by the community.

On the other hand the quantitative data revealed that 18% of the respondents responded that milk production system in the study area is highly fragmented and geographically dispersed, and 35% reported that there are no encouraging activities by the concerned bodies to let pastoralists sell their milk products to the nearby markets. 51% of the respondents responded that the feeding and rearing system of the study area is backward, 70% said that milk production per head of cow is also relatively low as there are no improved animal breeds. Though, women's contribution is high in the milk production process starting feeding milking cows, calf rearing, milking, and traditional butter production up to marketing milk products, they are not the direct beneficiaries of the product.

The study identified several key causes of low milk productivity and off-take such as; small herd size was reported by 38% of the respondents, poor reproductive performance was reported at 40%, lack of access to nutritive feed and water was responded by 80% , lack of alternative assets in which to store or invest cash surpluses, social factors discouraging sale, lack of functional animal health services was responded by 46% of the respondents , and demand for draught power for agro-pastoral systems competes with milk sales for milk cows, leading to predominant sales of aged, low-quality cattle. Thus, the quantitative data showed that lack of nutritive feed

and water, lack of improved animal breeds, and backward feeding and rearing system has taken the great share for the production of low quantity of milk in the study areas. Most analyses of herd dynamics portray mortality as being far higher than sales and as the largest extractor in all species.

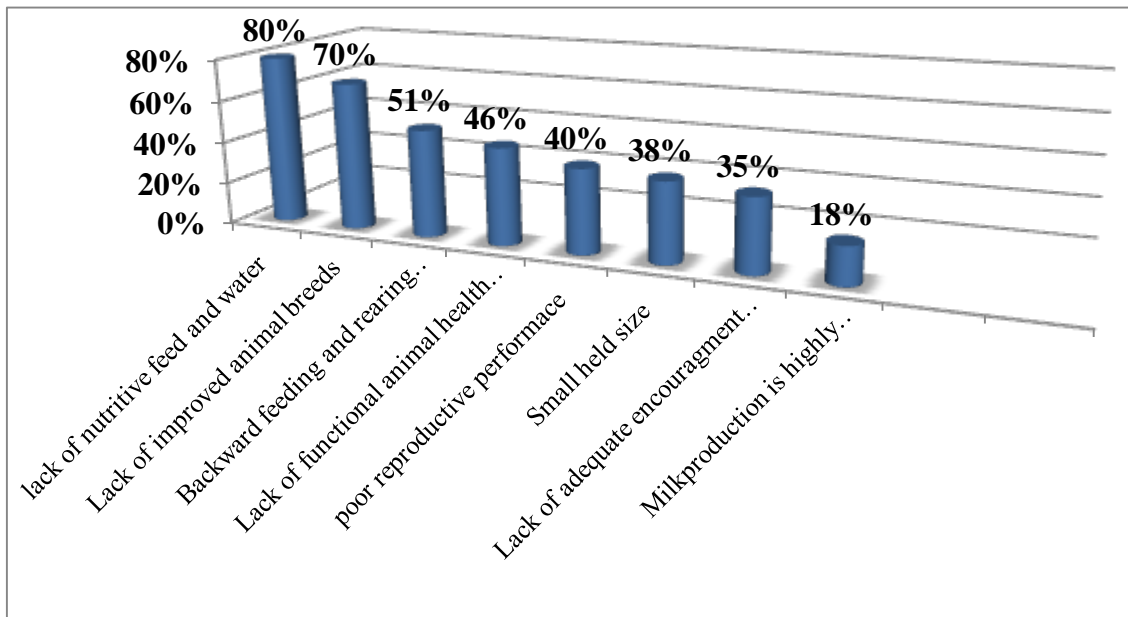


Figure 2: Why the current rearing and production system is unable to supply quantity of milk?

3.4. Feed and Water Shortage

The data collected through questionnaire, and strengthened by interview and FGD showed that feed is the most widespread constraint on milk production and productivity, in the study area (Batie and Adelle districts). This data was first revealed through questionnaire and further supported by in-depth interview and FGDs. The feed shortage problem arises in two related forms: shortage; and poor quality of feed. However, this study has given great emphasis on the shortage of feed in the study area as the study is done of individual farmers who own few numbers of animals and keep them in traditional rearing system.

Feed shortage is among the main constraints of women participating in milk value chain development. The study areas residents herd size (including survival and reproduction) is fundamentally constrained by this problem. The respondents were about the causes of feed shortage in their living area. Therefore, about 75% of the respondents responded that lack of grazing land as the problem, 38% said it is presence of large herd size, 85% reported that low annual rainfall which resulted periodic chronic drought is the reason for the problem, 55% said that it is deforestation, 70% responded that high human population growth constrain animals feed availability as the grazing land in continuously changed to farm land, 46% said that it is absence of rotational grazing system, whereas 50% of the responded that the presence of communal grazing land, and 60% has responded continuous land degradation and soil erosion is the reason for the reported problem. The carrying capacity of grazing land is continuously diminishing predominantly.

Table 1: The causes of feed shortage in the study area.

S/no.	Causes of feed shortage	Yes	No	Remarks
1	Lack of grazing land	75%	25%	
2	Lack of efficient annual rainfall	85%	15%	
3	Continuous land degradation and soil erosion	60%	40%	
4	Large herd size	38%	62%	
5	Deforestation	55%	45%	
6	High human population growth	70%	30%	
7	Absence of rotational grazing and cut & carry system	46%	54%	
8	Presence of communal grazing land	50%	50%	

Men do timely collect the required amount of feed for their cows on the pick production season for their animals subsistence, where as women are unable to do so. This was because they do have double responsibility and the grazing land is accessed to, controlled over and owned by men where women are not able to gather their faire share for their milking cows.

Data adapted from Ministry of Agriculture and Rural Development’s 2010, indicated that nationwide, 64 million tons of feed (including forage and dry matter) are required annually to sustain the livestock population in Ethiopia. However, the same sources estimated that only about 37 million tons are currently available, so that the system satisfies just 58 percent of needs. Data from specific pastoral areas shows a similar picture with an estimated feed deficit of 30 percent in Afar Region. The collected data showed that the main sources of animals feed in the study area are:

Grazing– grazing land is frequently used either by communal, or communally administered, with strong seasonality in supply due to seasonal rainfall patterns. Grazing and green fodder as a source of livestock feed are predominantly the main sources of feed for milking cows in the study area. Grazing as a source of livestock feed has begun to decline in recent years, as a result of increased areas of cultivation, and changing patterns of leaving land fallow for regeneration. Women have a very high constraint in accessing to and control over grazing land. This is because; due to the patriarchal society these grazing lands are controlled and administered by men. As a result, women’s role in milk value chain development is limited rather depends only on men’s good will.

Hay- Hay making is a labour intensive activity at large and is not usually accessible. Women in the study areas are double burdened (shoulder both domestic and public sphere responsibilities). This makes them not to fully participate at the right production season of hay making activities to add value on milk. Hay making in the study areas is a seasonal activity undertaken in spring season (September and October) from private cultivated land

after cereal crops are collected.

Crop residues– Crop residues are most often selectively fed to oxen and lactating cows. Crop residues’ takes the higher share of feed consumed by livestock in general and milking cows in particular. Thus, sorghum straw, teff and wheat straw are the widely available and consumed crop residues in these areas. The quantity of crop residues is determined by the ownership of plot of land. The larger the arable plot of land owned by the household the higher crop residue.

Women in the study areas (Batie and Adelle districts) are not be able to use a larger variety of feeds for their milking cows such as grazing and straw, crop by-products, wheat bran, silage, hay, and crop residues. This is due to the different conditions, availability and cost of the various feeds.

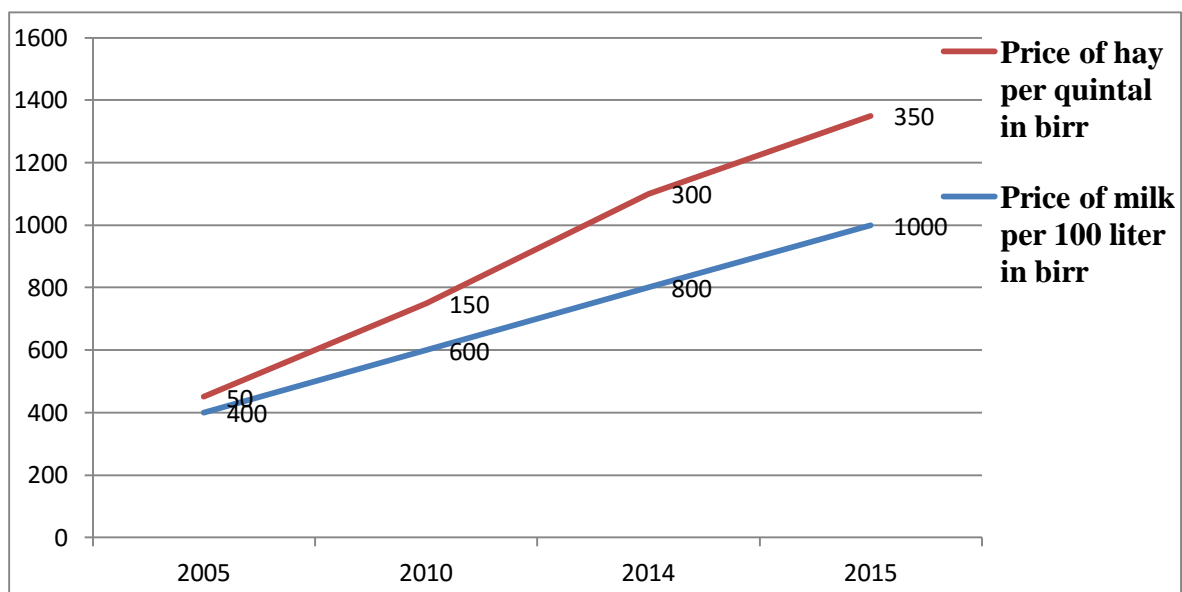


Figure 3: The price increment of milk and hay in comparison.

The finding revealed that the price of milk cows feed increased more quickly than the increment of the price of milk. For instance, the collected data showed that the price of milk per liter in 2005 was four birr and increased to six, eight and ten birr in 2010, 2014 and 2015 respectively. Whereas the price of hay per quintal was fifty birr in 2005 and increased steadily in 2010, 2014 and 2015 to 150, 300 and 350 birr respectively. Therefore, the price of hay is increasing by double than the price of milk is increasing. Furthermore, feed availability and prices vary considerably by season: the reported typical price rise varies between seasons. The price of a liter of milk in the study areas before three years (2012-2013) was seven birr but this year (2015) it has been raised to ten birr, though the price of feed has increased by more than double fold despite its unavailability.

Seasonal variability of water availability also introduces pressures in the quantity of milk production. This is particularly pronounced where water sources are not co-located with feed: a common situation during the dry season and in droughts. For intensive dairy production, water inputs pose constraints for both drinking sources and cleaning purposes.

3.5. Main challenges of Women in Milk Value Chain Development

Absence of milk collecting and processing firm: The survey data demonstrated that formal milk collection and processing firms are not established at Batie and Adelle districts. Accordingly, women in these areas, traditionally convert milk into milk products at home and sell butter to the nearby town (Haramaya & Harar) at weekends. Hence, milk is processed into regularly consumed products like plain hot milk, a mixture of coffee and milk (macchiato), fermented whole milk, butter, traditional ghee, buttermilk and cottage cheese. At household level, milk processing activities are undertaken traditionally by women. Some amount of milk produced in the study areas is sold in the nearby market at night with a traditional measurement. The price of milk for these women is very low even it doesn't cover their transportation cost, though they come on foot from distant rural areas. Moreover, women use traditional light (bottle with thread inside and filled gas) since they sell the milk at night while stay working the whole day.

Lack of market: survey respondents said that only some women under the study areas trade raw milk. Milk is primarily produced for home based consumption. But, it is also channelled to the market through informal market channel. However, among the traditionally processed milk produced butter more than 70% is sold to the nearby market in a fragmented way and only little fraction of milk produced is retained for family consumption. From the finding we can conclude that though women are traditionally processing milk, they are not benefited from its outcome as much of it is consumed at household level.

Poor Enabling Environment: The lack of the country's agricultural policy, regulations, guidelines, and programs implementation is affecting the livestock sector in general and milk production in particular. According to Ministry of Agriculture, 2010 the Federal Government of Ethiopia has instituted independent Livestock Development Department led by a State Ministry within the MOA that caters for livestock development. There are three directorates under this department; (1) Animal Production and Feed Resource Development Directorate, focusing on dissemination of inputs for livestock production and feed resources, (2) Animal Health Directorate, focusing on health and quarantine service provision and regulatory services, (3) Pastoralist Directorate, mandated for the pastoral areas and dealing with animal health and production issues in the pastoral areas of the country. These independent institutions do not give a special attention to gender issues in pastoralist areas. Thus, women and girls in such areas are disregarded from entertaining from the livestock product. Survey results generally showed that coalition between the various policy and support actors is not strong and their efforts are not well aligned, generally resulting in poor complementarity and inefficient use of available development resources made available through both government and NGO sectors.

Male Headed Household Characteristics: The collected data showed that the larger proportion of dairy farmers in the study areas were male headed and this can partly be explained by the relatively better access of male heads to dairy knowledge /information/ and other inputs required for dairy production, cow rearing, feeding and animals health management. According to the information obtained most males who are breadwinners of the family can read and write which helps them to read anything related to dairy production. Whereas women are illiterate who cannot read and write as a result of patriarchal ideology of the society.

Low Breeding and Artificial Insemination Services: According to Ministry of Agriculture 2010, of the total 27.1 million cows in Ethiopia, more than 99% were indigenous breeds. Less than 1 percent of cattle are cross and exotic breeds, about 0.61 % and 0.11% respectively.

The qualitative data showed that the use of improved dairy cattle for high production is important. To buy improved cow breeds and /or to use Artificial Insemination to improve the indigenous breeds women are running out of money. These cows and heifers are very expensive though the demand for these improved dairy breeds is going on increasing. Women ascertained that they have limited access to such animals, or to artificial insemination services.

3.6. Women's Opportunities in Milk Value Chain Development

Women's contribution and participation in milk value chain development is now a day's getting recognition by some of the concerned bodies (GOs and NGOs) through a continuous community conversations and awareness raising trainings given by Women Children and Youth Affairs offices and other stakeholders. Accordingly, their participation has been improved from milking and traditional churning up to forming milk associations and selling their milk product in nearby market relatively good price though it is not remarkably enough. This is due to:

Presence of National Policy on Ethiopian Women: the Ethiopian women's affairs office was first established in 1993 under the prime minister's office in the country's history. Starting from that time, it has been passed through different developmental stages and changed its name. Years later women's affairs office was reorganized and structured at ministerial level and named Ministry of Women's Affairs whereby women's policy was formulated for the first time. Hence, the policy has been supported and supporting women in various aspects /social, economic, political and cultural/. Currently, the ministry has changed its name in to Women's, Children, and Youth Affairs Ministry in 2010. As a result, the ministry has various vertical structures up to the kebele /a small district/ level through which each and every woman is accessing the office easily whatever challenges they are confronting. Currently the office is giving various /legal, consulting, offering trainings, carry out researches/ services for women. However, the office is criticized by different scholars by sticking on women's policy though the world is on gender policy. This indicates that the country is following the Women in Development approach /WID/ which is failed in the early 1980s and replaced by the Gender and Development /GAD/ approach.

The Ministry of Agriculture intention to incorporate women at 50% in every development activities. Ministry of Agriculture has a long history in Ethiopia. Alike Women Children and Youth Affairs Ministry has vertically organized up to kebele level to give agricultural extension services for farmers and pastoralists. Each kebele has three Development Agents /DAs/ who are graduated in different disciplines /one in animal sciences, one in plant sciences and one in natural resources management/ and one junior animal health officer for three nearby kebeles. These professional are continuously giving agricultural extension services. The three DAs will give professional support for women, men and youth associations.

The Ministry of Agriculture has set a clear direction that without women's participation any development will

not be realized and could not be sustainable. Consequently, among pastoralists who can get agricultural extension services in these three fields, half /50%/ of them should be women. This is because formerly all resources were controlled, owned and accessed by only men and even they were denied of their right to decision making power. Hence, women were not taking part their share as they were not given the chance. To remedy the past discrimination and to let them able to contribute their share to development they should be supported and get not only extension services but also fertilizers, trainings, attending meetings, using pure seeds and improved breeds of animals.

Women's land right: the Ethiopian Land Use, Administration and Environmental Protection Authority /LUAEPA/ has been established to control and administer rural land in the country. Alike Ministry of Agriculture and Women Children and Youth Affairs Ministry it has established its branches up to kebele level by assigning one professional to follow up rural land use and administration cases. Hence, to ascertain farmers land ownership right in the country, LUAEPA is giving green card by attaching both the husband's and wife's photograph together. This has given women land ownership right and they can access and control over their land which improves their decision making power. This helps women to produce animal feed for their cattle to enhance the quality and quantity of milk produce.

Presence of health extension workers in rural areas: women's in developing countries in general and in pastoralist areas in particular are restricted in household activities. This is because they do not have the access to formal education and cannot be engaged in public activities. Their illiteracy and restriction to household activities let to give birth for many years and many children which complicate their health. The Ministry of Health of Ethiopia has assigned two female health extension workers who give trainings for the society about family planning and disease prevention activities. Furthermore the health extension workers; distribute contraceptive pills, condom, and inject Depoe. They are working to raise the awareness of not only wives /women/ but also husbands /men/ as if husbands are not willing, the wife will not be able to plan her family due to the presences of patriarchal ideology in the society.

4. Conclusion

The livestock productivity in the study areas is highly dependent on the availability of annual rainfall. Together with this serious problem milk production is constrained by the interaction between the livestock production density and forage resources, unavailability of concentrated feed, crop residue, and industrial by-products. Despite their contribution in milk value chain development, women have the power to control over the livestock, and money obtained from. They are involved in activities related to the safety and wellbeing of the livestock performed around the homestead such as; collecting and cleaning animals' dung, maintaining hygiene, milking, traditional butter churning, feeding and watering, and selling milk and milk products in the nearby market.

There is great demand for milk in the study areas due to the presence of nearby cities and universities (Harar, Dire dawa and Haramaya). However, the quantity of milk produced is not sufficient due to lack of animal feed. The main causes of feed shortage in the study areas was lack of sufficient grazing, continuous land degradation and soil erosion, large herd size as compared to the grazing land, deforestation, high population growth, absence

of rotational grazing and cut and carry system, and presence of communal grazing land which diminishes people's interest to take care of those available grazing land. Apart from this women in the study area are coming across many challenges to effectively participate in milk value chain development. The main challenges are the traditional patriarchal beliefs of the society, absence of milk collecting and processing firms, lack of finance and inability to get credit, presence of weak market chain, and lack of getting improved animal breeds and inability to get artificial insemination.

5. Recommendation

Based up on the findings of the study the following recommendations are given:

Milk collection and processing associations are better to be established. This is also better to be further strengthened by creating milk processing machine. This will improve the economic status of women in the study area through which their decision making power will be improved.

Women are running out of initial capital and to maximize their activity in the sector. Therefore making credit available for women will alleviate this problem. Beyond offering credit for women there should be an established system to follow up their effectiveness and take periodic remedy for their familiarities. Women's access to credit enhances their saving habit for future investment. Along with this training about entrepreneurship should be delivered for women to improve their knowledge how to run businesses and being profitable.

The other important point which should be given emphasis by the concerned bodies is creating milk market channel to enhance women market opportunity to sell their milk and milk products. Milk and milk products can be easily contaminated and are perishable. Therefore, there should be alternative market for the would be created milk collection and processing associations. Apart from this awareness raising activities and training about involving women in milk value chain development is important especially in such areas where patriarchal ideologies are manifested. Changing the attitude of women will not be effective until their male counterparts are beside them to support. This shows that changing the mind set up of men and women is important in order to make women fully involved and being effective in the sector. Eventually, making Artificial Insemination accessible is important as it is among the decisive reasons for the low quantity of milk produced.

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