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Promoting female leaders in Somali Region, Ethiopia: An entrepreneurship approach

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This study takes a value chain approach to identify the constraints, opportunities, interventions and possible impact for the milk business in Fafan Zone, Ethiopian Somali Region. A cross sectional survey design was used. Purposive sampling technique was used to select 5 kebeles and from each kebele simple random selection was further used to select 70 women. Focus group discussions and in-depth interviews were also held with women, administrative staff and milk producer and distributer. Though milk and milk product sale is the major source of income, the women have limited power in milk price willpower. Cow milk produced average of 1 to 2 L/day during dry and 3 to 5 L/day in rainy season. The major factors affecting the milk business are: low milk productivity, high temperature and poor milk handling containers, absence of improved forage, and poor market infrastructure. There is also poor linkage among development actors in the milk value chain. Thus, there is need for improved infrastructure, enhance input supply system, facilitate the access to credit services, and promote women leadership through trainings.

Key words: Decision making, empowerment, milk market, sampling, value chain.

INTRODUCTION

In Somali region milk production mainly falls on the shoulder of women. Research on dairy production and marketing has shown that 58.8% of the total milk produced and sold in Jigjiga town is supplied by 530 women traders (Oxfam, 2013). Milk market in Ethiopia is featured by low level of vertical and horizontal integrations among the market actors (Tsehay, 2002). In Somali Region, milk producing women groups are also facing various challenges in their daily business including lack of absence of quality testing practices and quality based payment systems, storage and transportation which exposes the milk to heat further contribute for poor quality milk and spoilage (at least 5% loss) (Save the Children/US, 2010).

According to Oxfam's (2013) study report, thought the demand for milk is significantly higher than supply, producers receive a small share (30-40%) of the total value of production. Moreover, women lack of government strategy to support pro-poor, pro-women development in the livestock sector. For instance, while Ethiopia has a National Livestock Strategy which is being awareness, power to change milk production and post-harvest handling practices (Oxfam, 2013). Besides, pre and post milking practices such as pooling of milk batches, using containers that are difficult to clean, developed into a Livestock Master Plan, yet, this strategy

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is not translated into the regional context (WFP and CSA, 2014).

Milk value chain presents an important opportunity for women to harness their participation in markets, increase in income and enhance their decision making power at various levels. Due to cultural, economic, environmental and social factors, yet, women milk producers, collectors and small scale traders in the region are not empowered to influence decisions at household and community levels (Oxfam, 2013). Information on gender roles in dairy farming, decision making, access and control over resources in the study are is also lacking (Sadler and Catley, 2009).

Thus, this study tries to assess gender roles, access and control in dairy business and entrepreneurship and its implication on women leadership in the three *woredas*[1] of Somali region. Specifically, the study analyzes the main factors affecting pastoral women's involvement in milk business; find out milk value chain enabling environment for the promotion of women entrepreneur skill; identify the gaps in milk value chain actors and potential empowerment areas and assess gender role and decision making in dairy business and entrepreneurship.

RESEARCH METHODS

An overview of Somali region

The Somali region is the second largest region and is located in south eastern part of Ethiopia and between 4° and 11° N latitude and 40° and 48° E longitude. As to the CSA (2007) census, the Region has a total population of 4,439,147, consisting of 2,468,784 men and 1,970,363 women. The pastoralists and agro-pastoralists women of the region are mainly dependent on sold livestock and livestock products such as milk and ghee. There is high inconsistency of milk supply in the areas, as the milk availability highly depends on pasture and water availability which also relies on rain fall (Sisay, 2015).

Sampling and data collection

Both primary and secondary methods of data collection were used to obtain relevant information. A cross-sectional survey design was employed. This study was conducted in 5 *kebeles* from Jigjiga, Awubare and Kebribehay *woredas* of Fafen zone. The *woredas* were purposively selected because it relatively appeared to practices an agro-pastoralists system and the existence of potential milk women groups' which makes them suitable for the purpose of this study.

To obtain a representative sample, purposive sampling technique was used to select 5 *kebeles* from the three *woredas*. The identified *Kebeles* were Aroreys and Harofedi from Jigjiga *woreda*, Bodhaley from Awubare *woreda* and Chinkada and Guyo from Kebribeyah *woreda*. From each *Kebele* or village, simple random selection was further used to select 70 women. Except, Chinkda kebele which was given 10 sample sizes due to limited number of residents, the rest four *Kebeles* were given 15 sample sizes.

Using survey question, research basic field data (socioeconomic characteristics, value chain, marketing practices and challenges, decision making processes, leadership and empowerment issues) were gathered. In order to collect the qualitative data, in-depth interviews and focus group discussion were held with women groups, milk traders, support institutions, administrative staff and large scale milk producer and distributer. Field visit in milk production and market areas; consumer tastes and preferences; access to infrastructure; and enabling environment concerning milk hygiene and availability of credit services weres also made.

Beside primary data, secondary data were collected from published reports and/or journal articles. To analyze the quantitative data, SPSS version 21 was used. Descriptive statistics such as means and frequency distributions were used to draw a meaningful research results. Besides, qualitative data analysis such as descriptive and thematic analysis techniques was used.

RESULTS AND DISCUSSION

General characteristics of respondents

Results show that the general characteristics of respondents which include distribution of age group, marital status, education level and household size of women in 5 *kebeles* were not significantly different (P>0.05). In other words, there was somehow homogeneity in terms of all other variables except the difference in age. The difference in age could be attributed to memory lapse or absence of birth and other event recording culture which is quite common in most rural areas. All respondents were between 41 and 50 age group which falls within the economically productive age range for Ethiopia between 15 and 64 years, all were married and had no formal schooling. However, marriage is one of the leading factors considered to be the cause of women having limited access to and control over resources, particularly in pastoral areas where the majority of women live (Mongi, 2005). The finding shows that all the women do not have the necessary basic literacy and numeric skill which is thought to be very essential for efficient management and new technologies adoption in milk production and marketing (Table 1).

Factors affecting pastoral women's involvement in milk business

Physical capital

Due to years of neglect, most pastoralist areas suffer from lack of physical capital-roads, schools and health facilities, veterinary clinics, and pastoral/agro-pastoral training center. Although the government has continued its effort, still services are limited in terms of empowering women. In Chinkeda and Bodhaley villages, lack of access to road has created critical problem to bring milk to the market. There is also limited access to clean water that strongly affects milk hygienic quality and physical

[1]For the sake of simple administration, Ethiopia is divided in Zones. The zones are also further divided in to Woredas and woredas in to kebeles. Kebeles are the smallest administrative units while Woredas consist a group of kebele administrations.

Table 1. General characteristics of respondents (N=70).

Variable	Village	Average (single)	Average cluster	Range
Age (years)	Aroreys	42.9	37	
	Guyo	46	-	
	Bodhaley	50.9	-	
	Harofedie	41.7	-	
	Chinkada	46.8	-	
Marital status (%)	Married	99	-	41-51
	Single	1	-	
Education level (%)	No-formal schooling	100	-	
Household size	Small size(1-4)	4	-	
	Large size>5	96	-	

market in Bodhaley of Awubre and Chinkeda of Kebiribeyah districts. Milk collection shade, cooling facility, milk containers and quality testing equipment were not available, which challenges the production and marketing of milk.

Social capital

Pastoralists maintain and cherish a strong social system of resource sharing, borrowing, lending and gift exchange. Similarly, most of the pastoralists are organized into extended families and clans. As to Focus Group Discussion (FGD) participants, while the strength of the social organizations is deteriorating over time, it still serves as a safety valve during time of crises. Except few informal groups in Guyo *kebele,* most of the women's' were not involved in any form of associations and cooperatives.

Financial capital

Strictly speaking, most women in the study area own small ruminants like sheep and goats while camel and cattle are mostly owned by the male counterparts. In Awubare and Kebribeyah *woredas,* favorable market exchanges have not been available. Although the women have successful traditional loan and insurance scheme, however, there are limited (if any) modern loan and insurance schemes. This affects women leadership in dairy business and entrepreneurship.

Human capital

In the study area, there is low human capital development which in turn affects the development of dairy business and entrepreneurship skills. In this regard, two factors were identified. There is general lack of schooling for adult women. Almost all (100%) of the survey coverage indicates that all of the randomly selected respondents have never attended formal schooling. In addition, there is absence of community-oriented education that incorporates relevant content that helps to empower women on business development, saving, entrepreneurship, and leadership.

Natural capital

The diversity of pastoral livelihoods is important to their resilience and overall productivity, and that diversity relies on the exploitation of a wide range of natural resources. As to informants, a change over key resources such as rangelands and water sources resulted in gradual decline of livestock production in general and milk productivity in particular. For instance, in Chinkada and Bodhaley *kebele*, former precious grass species are now encroached by shrubs and *Acacia* species. The change favors browsers than grazing animals and which by itself affects milk productivity. Lack of access to water, drought, contamination, and salinization are the threats identified in the study area.

Milk production value chain

The women decide on the milk distribution between family consumption, conversion into other products such as ghee, gifts (to maintain social relationships), and sales. Sometimes, however, male household heads may influence and request small amount of money from the income acquired from milk selling to meet their daily expenses. As the aforementioned generic diagram shows, the main value chain segments identified in the

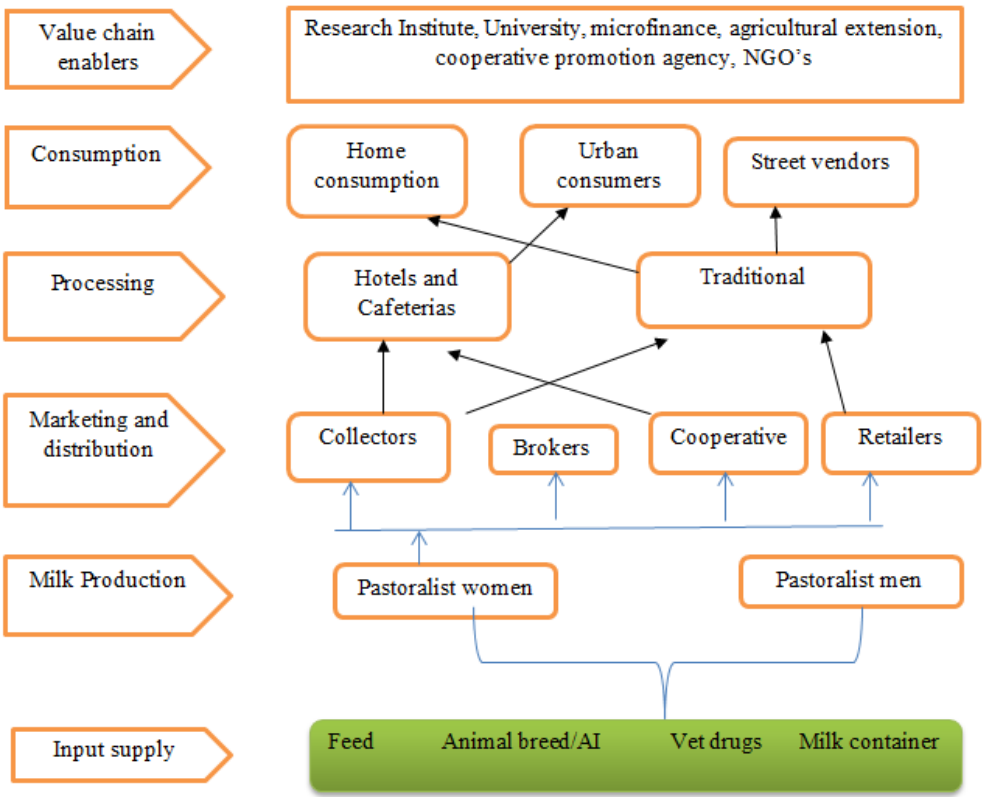

Figure 1. A generic schematic diagram representing milk value chain in the study area.
Source: Generated by authors based on information gathered from the field study.

study areas were: input supply, production, marketing and distribution, processing and consumption. The key actors along the chain include input suppliers, producers, consumers, retailers and cooperative (Figure 1).

Under the input supply segment, input such as feed, animal breed/artificial insemination (AI), animal health services, milk container and water collection *Birkas*[2] were found to be important and thus considered in this study. Under milk production segment; producer activities such as keeping, feeding, milking, taking care of calves, cleaning the shelter of the cows are mainly conducted by women. Milk marketing outlet is limited to small number of women collectors, brokers and retailers. Cooperatives under transitional stage are also operating as milk bulkers in Kebribeya *woreda*. Processing segment is limited to traditional milk processing at home, cafeteria and hotel.

Input supply

Feed resources for dairy cows to be acquired in two ways: natural open pasture land in wet season and through purchases of crop residue in dry season. There are no individuals or organizations that grow improved forage and supply for women engaged in business activity. This has led to reduction of milk volume and exposed pastoral women to pay extra expenses to purchase crop residue. Except Chinkeda village, crop production has been practiced in the rest four *kebeles*. According to the survey result, women in Chinkeda in particular are paying 10,500 birr/month for purchase of crop residue. This is because crop residue is transported from Keberibeyah areas to Chinkeda. While in Haroreys, Harofedi and Guyo areas, they pay 6000 to 7000 birr/month mainly during dry season (Photo 1).

The availability and accessibility of clean water for livestock and to wash the milk containers is very crucial (Zelalem et al., 2011). In some study sites, there are public and individual *Birkas* constructed for rain fed water collection. However, the sanitation of water collected in the public *Birkas* were poor compared to individual fenced *Birkas* (Photo 2).

Producers

Men and women are the main operators at this stage of value chain. A dairy cow improvement technology such

[2]Birkas are man-made holes constructed to collect rain water for animal and humans

Photo 1. Sorghum straw ready for feed in Bodaley village of Awubarre *woreda.*
Source: Field Data (2015).

Photo 2. Public Birkas constructed for water collection in Chinkeda village.
Source: Field Data (2015)

as AI practices was not practiced in the study areas. Yet, in Jigjiga and Awubare districts, AI intervention is recently introduced to model villages though it is too early to recommend the intervention and it needs an impact study to identify community needs and adoption challenges. Equip the veterinary services enhance milk productivity

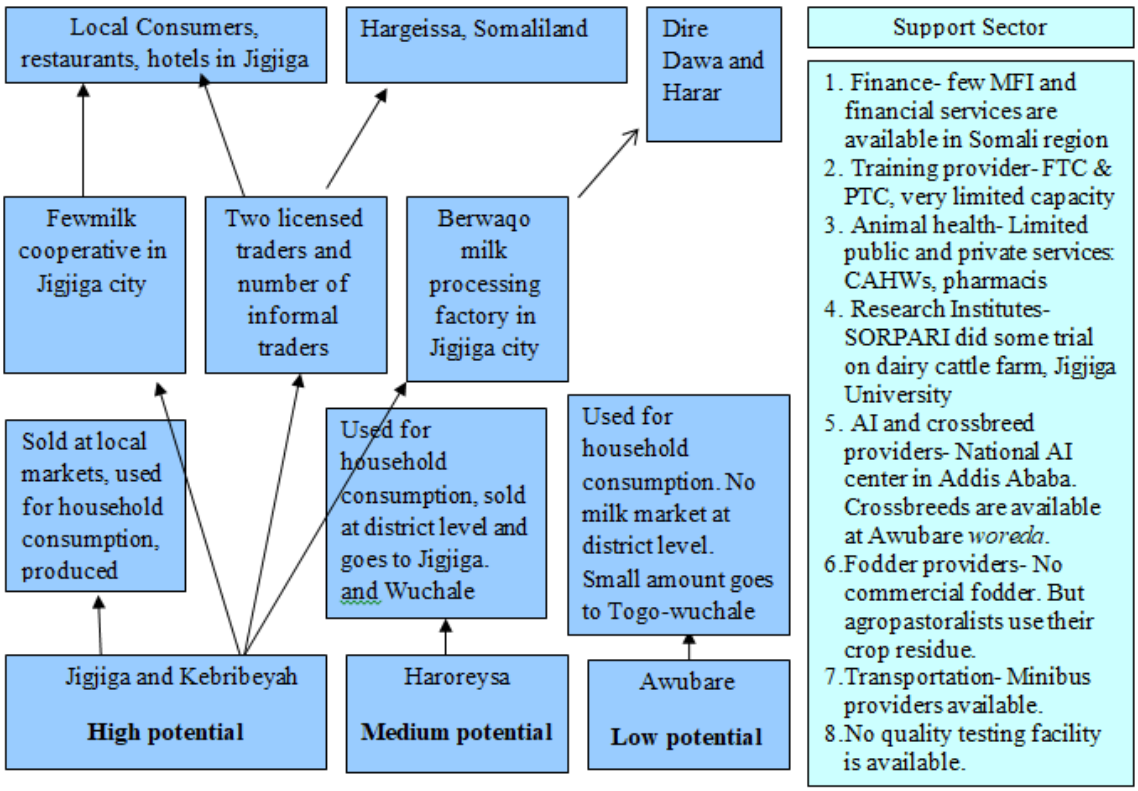

Figure 2. Dairy market map of Jigjiga, Awubarre and Kebiribeya *woredas*.
Source: Field Data (2015).

which in turn the pastoral women would further evolve into pluralistic and sustainable milk business (Fiona, 2008). However, the areas veterinary extension services delivery is inefficient and not well organized.

Milk marketing and distribution channel

In the study site, unlike women milk collectors or brokers, milk producer women have limited power in price determination. This is because they lack market information and also had limited market skills. They had limited bargaining power compared to the brokers. They had little confidence and limited knowledge on how the market works. Milk production also varies depending on season and availability of basic infrastructure such as road. For instance, cow produces average of 1 to 2 L of milk in a day during dry and 3 to 5 L in rainy season. Except Chinkada village, the rest *kebeles* have the potential for fodder production and are closer to the main milk markets such as Jigjiga and Togo-wuchale towns. At producer level, milk is sold with 16 to 20 birr/L (4 cups) in the rainy season and 24 to 28 birr/L in the dry season. Yet, some of the villages are far from the main road by 25 to 35 km, which leads producers not to access the market opportunities.

As shown in Figure 2, different types of cow milk market participants were identified between producers and the final consumers. These include producers (pastoralists and agro-pastoralists), rural collector, retailers, brokers, wholesalers, hotels and restaurants. The channel starts from producer, rural collectors, peri-urban assemblers and participation of wholesalers and cross the border route mainly to Tog-wachale. Despite of trans-boundary element of the business, there is no organized packaging, branding, standardization and grading system in production, purchasing and selling of milk. The quality is relied on tasting the milk by local traders.

Milk marketing system was predominantly traditional and fragmented, and characterized by adulteration, poor quality, weak seasonal demand and low price. The survey result showed that milk was found to be marketed only via informal marketing channels. Similarly, Zelalem et al. (2011) reported that about 95% of the marketed milk at national level is channeled through the informal system.

Transportation: Milk is transported using plastic jar cans of 1, 3 and 5 L containers to road side and to terminal market. Based on transportation radius, the research identified two segments: transportation to primary (from production site to local market/collection center) and

secondary (collection site to peri-urban/cross border) terminal market. Bush taxis, donkey and public transport are serving as means of transportation. It identified that poor containers and high temperature is causing huge loss of fresh milk. The milk spoilage is aggravated when travel to a distant market in the absence of cooling facility.

However, in Dhagahale village aluminium jar cans were distributed for Harmud Milk Cooperative. Similarly, Kedija et al. (2008) reported that milk marketing in Meiso districts hindered due to long distance to market (up to 12 km), spoilage and high cost of transport. In short, absence of small scale cooling, transportation and appropriate milk containers remain major bottlenecks of the study women in the value chain.

Processing: There is no formal milk collection and processing activities prevail at all study locations. Milk processing here thus refers to the act of traditionally processed into regularly consumed products like plain hot milk and a mix of milk and tea by cafeterias, hotel and restaurant. Recently, milk churner is introduced to milk producers' of Jigjiga and Awubare districts. This could be a good opportunity to empower the nearby women to process milk products. It was also found that value addition at primary level and agro-processing industries in the study area is limited to milk supplied from to Harofedi to Jigjiga.

Chain actors analysis

There is poor integration and few win-win market relationships between the chain actors. Women normally occupy a subordinate position within the value chain in milk enterprises. To reverse women lower levels in the value chain, hence, it is important to introduce women friendly technologies that will improve production, reducing labor, and increases their benefits, which in turn empower them to obtain a better income.

Value chain enabling environment

Access to micro financial institutions (MFIs) and credit service

Access to credit and saving institutions has significantly contributed to female empowerment by giving them extra income earning chances, increasing their independence, and improving their social status (Fiona, 2008). Informal institution like IGG, SHG is more widespread among the female surveyed. While MFIs is recently established in the Somali region, it has increasingly begun to target the potential of female entrepreneurs. In 2015, the Somali microfinance institution has 12,500 customers and out of them 86.4% are women. It has also disbursed over 286 million birr in loans and mobilized 57 million birr in saving. However, the main challenges encountered in expanding MFIs and accesses to credit service in pastoral areas include:

(1) Limited regional infrastructural facilities: which include limited electricity supply, telecom services, road, and core banking system, etc.;
(2) Lack of trained man power in the micro finance industry;
(3) Nature of customers: since most of the service users of MFIs are poor people it is often difficult for them to pay their loan back;
(4) Settlement pattern: since most pastoralist are mobile, it is difficult (if not impossible) to easily make services accessible to the community at large;
(5) Collateral related challenges: when most of the time customers in need of services come in group, it is difficult to easily manage the issue of collateral. Clan leaders are the main asset requested for pastoralist women to get credit.
(5) Finally, limited awareness of the community on how to access micro financial institutions and credit services were among the major challenges contributed to limited regional expansions of MFIs.

Despite the challenges, however, some of these opportunities are the existence of Sharia law, clan insurance, and the role of religious and clan leaders-which are believed to facilitate trust and the relationship between MFIs and people demanding the service.

Access to agricultural extension services

In the study area, it is safe to say that women group in particular does not have technical support in their dairy related activities. Officials also confirmed that agricultural extension services in dairy production were hardly given cognizance. Milk producing women perform their business without getting any support and technical assistance from the agricultural offices, research or NGOs. Due to active efforts of public extension and NGOs, yet, women in Jigjiga districts have relatively better access for training specifically on camel milk value chain.

The gender division of labor in dairy activity

As illustrated in Figure 3, women have a lions hare in milk production. While keeping and feeding the cows is shared milk production value chain pattern and milking the cows, take care of calves and cleaning the shed is dominant activity of women. Specifically, women participation is higher than men's in every cow's milking task and milk marketing. Men activity is the highest in feeding and grazing. Feeding lactating cows and product extraction (milking) requires dedication of time and is the main reason why men are less involved than women.

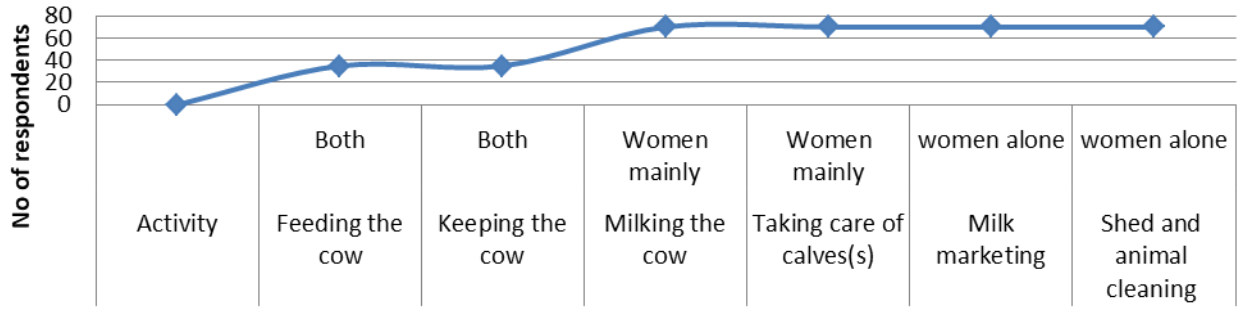

Figure 3. Gender labor division in milk production and marketing.

Table 2. Gender decision for minor and major expenses.

Variable	Cluster	Frequency	Percent
Minor expense (such as food and cloths)	Men	10	14.3
	Women	45	64.3
	Jointly	15	21.4
	Total	70	100
Major Expenses (such as camel and crop)	Men	32	45.7
	Women	0	0
	Jointly	38	54.3
	Total	70	100

Source: Field Data (2015).

Labors, especially women labor in milk business have to work 12 to 14 h per day.

Importantly, one more thing should be noted that women's high rate of participation in milk post-harvest activities are directly associated with handling and primary transformation including transportation to market places. While men tend to participate more in less frequent livestock tasks such as care of animal health and search of water and pasture.

Women milk producer's participation and decision making

The study finding also revealed that women participation in decision making is higher than expected. Virtually, important pattern of shared participation and complementary activity is observed between women and men. On average, 64.3% of women surveyed responded that they alone made decision for minor expenses. However, 21.4% of women decided jointly whereas only 14.3% of men make their own decisions for minor expenses. Decision-making is more a shared activity between men and women for major expenses with 54.3% of all decisions being made jointly. Men tend to make a larger percentage of the decisions alone (45.7%) than women (Table 2).

Conclusion

The dairy value chain involves several activities from production of the milk through reaching to the final consumer in the market. The key actors include individual/group milk producers, retailers, feed suppliers, private processors, exporters and milk and milk product consumers. Yet, the coordination among the afore-mentioned key actors was observed to be extremely weak and ill coordinated. Milk marketing is challenged by pastoralists low market orientation, low entrepreneurial skill among the market chain actors, weak institutional capacity of the market itself, seasonality of the marketing due to less/no produce during the dry season, low market accessibility and loss of products due to poor handling and storage. Yet, there is a good potential for market-oriented milk business development. Addressing the challenges in the milk value chain systems through applying the suggestions stated subsequently will directly benefit the leadership potential of women, creating employment and enhance the women's livelihood.

RECOMMENDATION

Based on the research and to address the challenges in the milk value chain, the following recommendations are

offered:

(1) Building entrepreneurial capacity and market orientation of major actors' such as: producers, collectors and processors;
(2) Building the capacity and business skill of women pastoralists to transform the existing pastoral production system into market oriented production through continuous and regular extension services to the target pastoral groups;
(3) Improve coordination among supporting institutions including governmental offices, NGOs and traditional institutions to jointly work towards improvement of the sector;
(4) Support input suppliers such as feed producers and traders, veterinarian pharmacies and dairy cow improvement schemes (AI), dairy inputs, and link them with the producers;
(5) Introduce drought resistance forage crops and promote agro-pastoralists to engage in silage making from crop residue and fodder banks establishment;
(6) Support milk processing firm to provide better and sustainable market opportunities for the producers. Market oriented pastoralist milk producer groups have to be established and increase the pastoralists' competitiveness in the milk value chain;
(7) Encourage and support women participation and leadership in dairy business cooperatives in order to promote their decision making and entrepreneurship skills;
(8) Put in place and upgrade milk collection centers to better provide services and maximum use by the producers and milk cooperatives. Promote branding and packaging for market competition and quality based payments to eradicate milk quality problems as a long term intervention strategy to enhance women skills of competitiveness and innovation.
(9) Supporting small scale and women friendly technology adoption for enhancement of milk quality and competitiveness such as replacement of plastic jar cans with aluminum cans.
(10) Promote introduction of appropriate transportation firms to provide appropriate mode of transportation for milk (vehicles with coolers).

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CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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