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Analysis of Constraints Facing Urban Dairy Farmers and Gender Responsibility in Animal Management in Jimma Town

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Abstract: Small-scale urban dairy production is an important enterprise in Jimma town for income and employment generation. This study has investigated constraints faced by the small-scale dairy farmers in Jimma town, Oromia Region, Ethiopia. It has also examined gender responsibility in animal management and decision making process. A single-visit-multi-subject formal survey was adopted to sample and administer questionnaires to 54 respondents in the study area. Data were analyzed using descriptive statistics. Lack of land (50%), shortage of feed (38.9%), lack of improved animas (5.6%) and lack of access to artificial insemination (3.7%) were constraints limiting dairy production in the study area. Other constraints included lack of extension services, diseases, lack of credit service and market problem during fasting period. Source of labour for animal management was hired labour (33.3%), family labour (16.7%) and the combination of both (50%). Dairying generated a full-time employment to 103 male and 13 female labourers. On average, each farm hired 1.91 male and 0.24 female employees. Majority of the farms (85.2%) hired male labourer, while 22.2% hired female farm workers. Activities such as herding (22.2%), farm cleaning (83.3%), stall-feeding (74.1%), watering (77.8%), feed collection (74.1%) and milking (59.3%) were predominantly done by hired labour. Veterinary health care (67%) was the responsibility male household head. Milking (13%) and milk processing (27.8%) was done by female household members. Men decide selling of animals (37%) and milk (31.5%), while women decide how much of the milk will be kept for household consumption (61.1%). Women also have a saying in sale of animals and milk. It is recommended that technical and institutional intervention is needed to alleviate the identified problems through adequate input supply and service delivery to improve dairy production in the study area.

Key words: Constraint % Decision airy production % Gender % Urban

INTRODUCTION

Urbanization is advancing at a much more rapid rate than ever. Sub-Saharan Africa is approaching a population inflection point as the numbers of new urban residents are projected to rise sharply by over 3000 million between 2000 and 2030 which is more than twice the rural population increment [1]. Urgent attention is required to provide food for this growing demand. Much of the demand for dairy products will be concentrated in the urban and peri-urban area [2]. Given suitable government policy support and access to market and services, there is a great potential to develop smallholder dairy schemes in peri-urban and urban areas of Ethiopia. The increase in milk production has benefited much from policy reforms starting from 1993. Along with population growth and technological intervention, policy reforms contributed to an estimate growth rate of milk production of 3% compared to 1.8% in the period of 1975-1992 [3].

Although Ethiopia has the largest livestock population, productivity and production have remained low [2]. Per capita consumption of milk is estimated at 19 liters; this value is lower than African and world per capita averages, which are 27 kg/year and 100 kg/year. The poor genetic potential for productive traits, substandard feeding and low level of health care and management practices are the main contributors to the low productivity [4]. In Ethiopia Urban and peri-urban dairying is contributing immensely towards filling in the large demand-supply gap for milk and milk products in urban centers, where consumption of dairy products is remarkably high [2].

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In the study area, the demand for milk and milk products is also increasing due to urbanization, increases in per capita income and population growth. To make use of this opportunity small-scale urban dairy production is expanding as a means to improve the livelihoods of farmers through family income and employment generation, achieving food security and poverty alleviation as well as to improve nutritional status of the family. Despite the importance of dairying to the livelihood of farmers, there is little information on main constraints affecting dairy improvement in the study area. The main objective of the study was to assess the major constraints affecting small-scale dairy production, gender responsibility in animal management and decision making process in Jimma town.

MATERIALS AND METHODS

Study Area: The study was conducted in Jmma Town of Oromia Regional State, located 355 km southwestern Ethiopia. The study area, Jimma City is located at 355km south-western of Addis Ababa. The area lies between a latitude of 7°41'N and longitude of 36°50'E and has an elevation of 1704 meters above sea level. The area is characterized by a humid tropical climate of heavy annual rainfall that ranges from 1200-2000 mm per year. About 70% of the total annual rainfall is received during rainy season, which lasts from the end of May to early September. The area has a relatively higher temperature of about 25°C-30°C from January to April and having a minimum temperature of 7°C-12°C during the months of October to December [5].

Sampling Procedure: The survey was conducted in Jimma Town of Oromia Regional State, Ethiopia. A single-visit-multi-subject formal survey [6] was used to collect data. A total of 54 dairy farmers were randomly selected from 72 small-scale dairy farmers registered at Jimma Town municipality Urban Agriculture Development Department.

Sources of Data and Analytical Techniques: Primary data were used for this study. These were obtained by using pre-tested, structured questionnaire to collect data on: socio-economic household characteristics (sex, age, household size, landholding, occupation, years of experience in dairying and level of education), sources of income, access to information, extension, credit and input services, knowledge and institutional support received and main constraints associated with the dairy enterprise as identified by respondents and gender responsibility in dairy management and decision making. Questionnaire interviews and visual assessments of each farm were conducted by the author between November 2009 and May 2010.

Data collected were coded and entered into a data base using SPSS. Descriptive statistics such as mean, standard deviation, percentiles and frequencies were used to analyse data using SPSS for windows version 16.0 (SPSS Inc., Chicago, Illinois, USA).

RESULTS AND DISCUSSION

Socio-Economic Household Characteristics: Personal and socio-economic household characteristic of the dairy producers are presented in Table 1. The average age and family size of the respondents was 51.26±10.99 years and 6.02±2.52 persons per household, respectively. The family size reported in this study is smaller than that of Asaminew and Eyasu [7] who observed average family size of 8.2 and 7.2 in Bahir Dar zuria and Mecha woreda, respectively. Age structure determines the composition of goods and services thus has direct influence on dairy management practices and other economic and social activities necessary for improved livelihoods.

Table also showed that 35.5% of the farmers had diploma level education, while 24.1 % and 7.4% had senior secondary school and university level education, which shows that majority of the farmers are educated. The percentage of farmers having college and university level education (42.6%) was higher than that obtained by Yousuf Kurtu [8] and Yitaye *et al*. [9] in eastern and northwest Ethiopia. The results also show that 75.9% of the respondents are male, whereas 24.1% are female showing that dairying in Jimma Town is mainly male domain. This is in agreement with observations by [9, 10, 11] in different urban dairying in Ethiopia. It was also observed that 96.3% of the respondents owned no land and 3.7% leased out a small area of land. Result from this study is in agreement with that of [9, 11, 12, 13] in urban dairy farms in Ethiopia. With regard to occupation, 25.9% are civil workers, 25.9 %, are pensioner, 20.4% are traders, 11.1% are household wives and 16.7% are full-time dairy farmers. Thus, for most of the respondents dairying is only taken as a secondary or side occupation. Similar results were reported by Azage *et al.* [14]. Dairy farming experience of the respondents ranged from less than 5 years (16.7%) to more than 15 years (50%).

Table 1: Socio-economic characteristics of the respondents

Characteristics	Categories	Frequency	Mean /Percentage
Age		54	51.26±10.99
Family size		54	6.02± 2.52
Level of education	Non educated	1	1.9
	Primary school	11	20.4
	Junior secondary school	6	11.1
	Senior secondary school	13	24.1
	College	19	35.2
	University	4	7.4
	Male	41	75.9
Gender	Female	13	24.1
	Married	50	50
Marital status	Unmarried	2	2
	Widow	2	2
	landless	52	96.3
Landholding	leased	2	3.7
	Business	11	20.4
Occupation	Civil worker	14	25.9
	Pensioner	14	25.9
	Dairy farmer	9	16.7
	Household wife	6	11.1
	Dairying	40	74.1
Income source	Salary	2	3.7
	Business	11	20.4
	Pension	1	1.9
Years of experience	Less than 5 years	9	16.7
	Six to 15years	18	33.3

Source: 2010 field survey

Income Sources and the Contribution of Dairy to Household Welfare: The results of income source of the respondents are shown in Table 1. The main income sources were dairy (74.1%), salary (20.4%) and business (3.7%) and pension (1.9%). Dairy was reported as the most important source of income for the majority of the respondents. The results are higher than the report by [9, 11, 15]. The results also show that 29.6% and 24.1% of the farmers indicated that pension and salary were the second most important sources of income. Majority (79.6%) of the farmers reported that income from dairy production was mainly used for purchasing food items and covering education and health expenses. According to Zelalem Yilma [16] urban and peri-urban dairying contributes to overall development through income and employment generation, food security, asset accumulation, poverty alleviation and improving human nutrition and health.

Constraints to Dairy Production: The analysis of the result reported in Table 2 shows that there are several problems hampering dairy production in the study area. The major constraint facing dairy farmers in dairying was lack of land. This problem was reported by 50% of the farmers. As a result of this 96.3% of the respondents use residential compound for dairy production. The result from the present study is in agreement with reports of [9, 11, 12, 13]. Other problems were feed shortage (38.9%), lack of improved dairy animals (5.6%) and lack of artificial insemination (3.7%), respectively. Moreover, lacks of extension service, diseases and lack of credit facilities were also mentioned. Results of the study are in agreement with observations made by [7, 9, 17] in different parts of urban dairy production in Ethiopia.

Unavailability of feed probably limits the milk production potential of cows with good milk producing ability more than any other single factor and is the most serious constraint to improve dairying [16, 18]. It was observed that the demand for improved crossbred cows by the respondents was found to be high. To alleviate this problem, creating credit facilities and services to the farmers to purchase improved cows is needed. According to [21] unavailability of suitable animals for dairy either as foundation stock or as replacements for milk production are constraints to improved dairying. From the results of this study, it could be suggested that access to quality feed, artificial insemination services, adequate land, improved breeds of cows and access to veterinary services are vital in enabling farmers to improve milk production in the study area.

Table 2: Ranking of problems associated with dairy production in the study area

		Priority of problems in dairy production							
		1st		2nd		3rd		4th	
Constraint	Total number of respondents	No	%	No	%	No	%	No	%
Lack of land	54	27	50.0	17.0	31.5	4	7.4	1	1.9
Feed shortage	54	21	24.0	24.0	44.4	4	7.4	2	3.7
Diseases	54	1	1.9	0.0	0.0	4	7.4	3	5.6
Lack of credit	54	0	0.0	3.0	5.6	8	14.8	11	20.4
Lack of improved cows	54	3	5.5	0.0	9.0	9	16.7	10	18.5
Lack of extension service	54	0	0.0	0.0	0.0	0	0.0	3	5.6
Lack of AI	54	2	3.7	8.0	14.8	22	40.7	19	35.2
Market problem	54	0	0.0	0.0	0.0	0	0.0	1	1.9
Labour shortage	54	0	0.0	0.0	0.0	1	1.9	0	0.0
Low milk production	54	0	0.0	0.0	0.0	2	3.7	4	7.4

Source: 2010 field survey

Table 3: Gender division of labour in dairy production

	Farm activity							
Labour source	Herding	Cleaning	Stall feeding	Watering	Feed collection	Milking	Milk processing	Treatment
M	1.9	0.0	0.0	1.9	1.9	1.9	1.9	63.0
W	0.0	5.6	5.6	3.7	3.7	13.0	27.8	16.7
CM	3.7	1.9	5.6	3.7	1.9	1.9		5.6
CF	1.9	3.7	0.0	0.0	0.0	0.0	3.7	0.0
HL	22.2	83.3	74.1	77.8	74.1	59.3	3.7	5.6
M+W	0.0	1.9	1.9	1.9	1.9	9.3	0.0	5.6
M+CM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
M+HL	0.0	1.9	3.7	1.9	1.9	3.7	0.0	1.9
W+CM+HL	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
W+CF	0.0	0.0	1.9	1.9	1.9	3.7	1.9	0.0
W+CM	0.0	0.0	0.0	1.9	1.9	0.0	0.0	1.9
CM+HL	0.0	0.0	0.0	0.0	1.9	1.9	0.0	0.0
M+CM+HL	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
W+HL	0.0	0.0	1.9	1.9	0.0	3.7	0.0	0.0
W+CM+HL	0.0	0.0	1.9	1.9	0.0	0.0	0.0	0.0
F+HL	0.0	0.0	1.9	1.9	0.0	0.0	0.0	0.0

M=men, W=women, CM=children boys, CF=children female, HL=hired labour, F=family; Source = 2010 field survey

Gender Division of Labour in Dairy Management: Gender responsibility in dairy production in Jimma town is shown in Table 3. The respondents indicated that the main sources of labour for animal management were hired labour (33.3%), family labour (16.7%) and the combination of family and hired labour (50%). Assessment of hired labour employment indicated that dairy production generated a full-time employment for 103 male and 13 female. On average each farmer employed 1.91 male labourer and 0.24 female labourer. Out of the hired labour, 88.79 % are male labourer, while11.21% were female labourer. This agree with the reports of [9, 19] in urban farms in Ethiopia. As shown in Table 3, dairy activities such as herding (22.2%), cleaning the shed (83.3%), stall-feeding (74.1%), watering animals (77.8%), feed collection (74.1%) and milking (59.3%) were done by hired labour. This is also in consistent with the report of [9, 19]. Men are responsible for treatment of sick animals (63%), whereas women are involved in milking (13%) and milk processing (27.8%). Similar findings have been reported by [20]. In contrast, [7] reported that 50.4% of milking is done by men in northwest Ethiopia. Respondents mentioned that wet season is the peak of high labour demand for feed collection (87%) and barn cleaning and manure disposal (7.4%).

Decision-Making: Decision-making powers and their distribution in a household is indicated in Table 4. Result of the study indicated that most of the decisions such as selling animals (50%) and selling milk (40.7%) were taken jointly by men and women. Men decide selling milk (31.5%), while how much of the milk will be kept for household consumption (61.1%) and selling milk products (9.3%). In female headed households, every decision is

Table 4: Decision making by households in the study area

	Decision maker		
Decision	Men (%)	Women (%)	Both (%)
Selling animals	37.0(20)*	13.0(7)	50.0(17)
Selling milk	31.5(17)	27.8(15)	40.7(922)
Selling milk products	1.9(1)	9.3(5)	0
Milk for consumption	22.2(12)	61.1(33)	16.7(16.7)

*=Ffrequency of respondents; Source: 2010 field survey

made by women and the children might also have a saying. Men have the upper hand decision in selling animals and milk. The decision making of male and female observed in this study is in agreement with [8, 9, 12].

CONCLUSIONS

The present study investigated constraints faced by dairy farmers, responsibility of gender in dairy management and decision making power. Results from the study revealed that the respondents had different level of education and occupations. Dairy production was found to be an important enterprise and have the potential to be economically viable and greatly contribute to poverty alleviation, food security, improved family nutrition and income and employment generation. However, lack of land (50%), shortage of feed (38.9%), lack of improved cows (5.6%) and lack of artificial insemination (3.7%) were main constraints limiting dairy production in the study area. The study revealed that the main dairy management activities such as herding, cleaning the shed, stall-feeding, watering animals, feed collection and milking were predominantly done by hired labour. The results of decision making power and their distribution in a household indicated that men make most decisions related to selling animals. Women also have a saying with this regard. Women decide how much of the milk will be kept for household consumption.

Recommendation: Based on the findings of the study it could be recommended that in order to improve dairy production in the study area, there is a need for technical and institutional intervention to alleviate the identified constraints through dissemination of appropriate technologies for better feeding, artificial insemination service, improved dairy animals supply and access to land, which will significantly increase milk production and animal performance.

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