

Gender Roles in Small Holder Dairy Farming: Pertinent Issues on Access and Control over Dairy Farming in Arumeru District, Tanzania

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Abstract

A study on gender roles in dairy farming and management was conducted in Arumeru district, Tanzania. The study involved women in dairy farming groups and those not in groups. The objective of this study was to assess gender role in dairy farming and management, access and control over income obtained as well as, animal ownership, decision making and opportunities in dairy farming system in Arumeru. Cross sectional research design was adopted using structured questionnaires to collect information from households from six villages namely Bangata, Sasi, Inshupu, Enaboishu, Sokoni II and Nkoaranga. Descriptive analysis and *Chi-square* were used to test the statistical significance of categorical and continuous data respectively. The results showed that women contribute more labour force in dairy management than men, those women who were not in groups did not have a full access and control over dairy farming enterprise. Furthermore, it was observed that those women in groups were in a good position to overcome traditional practice.

Women who belonged to groups controlled and had access to resources such as livestock (dairy cattle) and income generated from them. However, since most of the farmer groups were still infants, it has been recommended that the women groups should get financial assistance from the government agencies. Similarly, in conjunction with encouraging more women to join groups, gender relations in dairy management should be reassessed to minimize the work load burden to women which affects the level of production and sustainability of the dairy enterprise.

Keywords: Access and control, dairy management, gender, women groups.

Background

Women in Africa play an important role in agriculture 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 and more than this in developing countries. In Sub-Saharan Africa, women produce around 80% of food, both for household consumption and for sale. They are usually responsible for food processing and also make a major contribution to food storage, transportation and marketing but they seldom control the revenue generated (FAO 1998). Women play an important role in livestock management as well including milk production, processing and marketing although not all women control the sale of milk and its products (IFAD 2007).

Regardless of their many responsibilities, women have significantly less access to resources and services which impair increased productivity and their income earning potential. There are factors which hold women back and needs to be reversed such as lack of education, unequal property rights, exclusion in decision making and limited control over resources. In addition, they also play significant role in labour intensive and time-consuming activities. For poor communities to prosper and grow, women's needs and rights must be well addressed. An understanding of role of women farmers, importance and constraints is a prerequisite to devising policies to improve productivity and socio-economic development.

In most of the developing countries particularly in low income countries such as Tanzania, there is a general lack of gender specific data related to the agricultural sector. Although women in Arumeru district and elsewhere play an important role in small holder dairy farming, there is little information available on gender roles in dairy farming and management, access and control over resources. This sometimes leads to problems in program planning since official data are essential for policy makers. Present study has been carried out to assess gender roles, access and control in dairy farming in Arumeru district among women in dairy farmers. The overall objective of this study was to analyse the gender roles in dairy farm management, in Arumeru district in order to assist policy makers for reviewing the traditional methods for the long term improvement of women's position in rural communities so as to bring sustainable agricultural development particularly in dairy production. In addition, this study also investigates if there are any significant differences on access and control of income obtained between women who were involved in groups and those who were not.

Methodology

Description of the study area

The study was conducted in Arumeru District which is located in South Eastern of Arusha region. The district has an area of 2996 km² and human population reaching 515,814 according to 2002 census (URT 2003). The district receives bimodal rainfall, long and short rains which start from March to May and from November to December, respectively. Average annual rainfall varies from 1000 to 4500 mm with significant daily, monthly and annual fluctuations (Arumeru District Profile 2000). The average temperature ranges from 20-35⁰C. This weather is favorable for dairy farming (Arumeru District Profile 2000). Main activities in the district are livestock keeping mainly under zero grazing and crop farming. The major crops grown are banana, coffee, maize, beans and vegetables.

Research design

A cross sectional study design was used. To obtain the representative sample for the study, purposive sampling technique was used from four wards of East and West Arumeru. These are Bangata, Nkoaranga, Moivo, and Sokoni II. Sixteen villages were identified which includes women in dairy farming groups and those not in groups. Simple random selection was used to select six villages out of the sixteen villages. These villages were Bangata, Sasi, Inshupu, Enaboishu, Sokoni II and Nkoaranga. From each village simple random selection was further used to select 25 women. Finally, 150 women were interviewed of which 79 were from the group while 71 did not belong to any group.

Data collection

The study was carried out in October to November 2006. Data were collected by using structured questionnaires on gender roles and responsibilities with respect to major dairy farming activities, gender participation in training and seminars, control and access over income obtained from dairy farming. The questionnaires were used to collect information at household level for women in groups and those not in groups. Observation of some facts was also carried out throughout the study period without asking people. Secondary data were also collected from published reports/ journal articles from libraries and internet browsing.

Data analysis

Data were analyzed for descriptive statistics (i.e. means, percentages, frequencies) using Statistical Package for Social Sciences (SPSS) Version 11. The SPSS package was further used for performing *Chi*-square tests for ascertaining associations between categorical variables.

Results and Discussion

Sample characteristics

General characteristics of the respondents are given in Table 1

Results shows that the general characteristics of respondents which include distribution of age group, marital status, education level and household size between women in groups and those not in groups were not significantly different ($P > 0.05$). Majority of respondents in both groups were in their middle age, married and had primary education. These observations imply that there was no significant association between involvement in women dairy farming groups and these characteristics. However, the respondents were within the economically productive age range for Tanzania of between 15 to 64 years (Mandara 1998).

Table 1: Sample characteristics general information (N=150)

Variable	% WIG	% WNIG	All n(150) %	Chi-square
Age group (Yrs)				
18-25	3.8	4.2	4.0	P=0.14 ^{NS}
26-33	16.5	19.7	18.0	
34-41	16.5	32.4	24.0	
42-49	34.2	35.4	30.0	
Above 49	29.1	18.3	24.0	
Marital status				
Married	82.3	85.9	84.9	P=0.16 ^{NS}
Single	5.1	0	2.7	
Divorced	2.5	0	1.3	
Separated	2.5	1.4	2.0	
Widowed	7.6	12.7	10	
Education level				
No formal Schooling				
Primary school	16.5	18.9	17.3	P=0.22 ^{NS}
Secondary school	72.2	78.9	75.3	
Post secondary	8.9	1.4	7.3	
	2.5	1.4	2.0	
Household size				
Small size(1-4)	24.1	32.4	28.0	P=0.17 ^{NS}
Large size>5	75.9	67.6	72.0	

WIG=women in group, WNIG=Women not in groups, NS=Not significant

Gender roles in dairy farming

Results on labour contribution to the main dairy farming activities in Arumeru district at household level are presented in Table 2.

Table 2: Response of farmers on main dairy farming activities at the household level

Who is involved (%)	Activities						
	Milking morning	Milking evening	Cleaning barn	Grass cutting	Feeding	Watering	Fetching feeds
Women	76	78.7	61.3	39.3	46.7	46.7	44.7
Men	0	0	0.7	1.3	0.7	0	0.4
Boys	0	0	0	0	0	0	0.7
Girls	0.7	0.7	0.7	0.7	0.7	2	2.6
Hired labour	0.7	0.7	5.3	5.4	5.3	3.3	2
Women & girls	10.7	9.3	16	15.3	10.7	10.7	15.6
Women & hired labour	8.7	8	7.3	7.3	7.2	7.3	7.3
Women & men	3.2	2.7	8.7	30.7	28.7	30	26.7
Total	100	100	100	100	100	100	100

Table 2 shows the activities performed in dairy farming. Most of these activities are performed daily, implying that dairy farming is a labour intensive enterprise. All gender contributed at least some role in most activities. However, there was disparity in level of labour contribution between men, women and children. Men and boys were not involved in milking. This is contrary with men in Nepal who mainly perform milking Paudel et al 2009. Women in Arumeru contribute more proportion of labour and time than other household members. This is also supported by other studies Njarui et al (2012); FAO (1995) and IFAD (1999), which observed that women traditionally carry the major responsibilities for subsistence agriculture, particularly livestock and food crop production. The contribution of children to dairy farming activities was low and found less than 5% of total labour for most of the activities. This is in agreement with a study of Kenya and Uganda (Njarui et al 2012). The low contribution of children was primarily because they need to attend their school during week days and they were only available during week-ends. The similar study on gender roles conducted in Nepal found that dairy farming activities and management are jointly conducted by men and women in rural areas (Paudel et al 2009), in peri-urban Machakos Kenya men contributed more in dairy farming activities than women (Njarui et al 2012).. The reason for Arumeru findings could explain the fact that livestock management roles are traditionally carried out by women among Wameru ethnic society. According to the information obtained from the District Veterinary Officer, husbands are involved in dairy production in some specific duties such as consulting veterinary services, sales or purchases of animals.

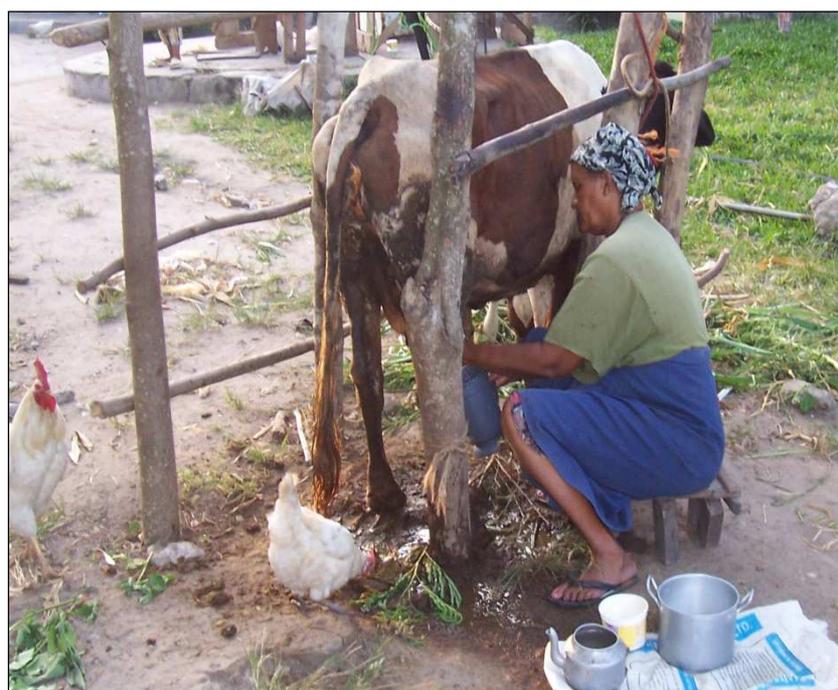


Figure 1: A woman at Nkoaranga village milking a cow

According to Lane 1991, findings on feeding systems, indicate that feeding, cleaning and milking of dairy animals are done mostly by women. Most of the work involving livestock management is traditionally considered as the responsibility of women. The study done by (ILRI 1997) Kenya National Dairy Development Project showed that, while 84 percent of the farms included in the study were owned by men, 84 percent of the dairy operators were women. Similarly, Beth (2001) observed that women usually provide most of the labour for stall-fed dairy cattle and other animals kept near the home, but may not realize benefits commensurate with their contribution, limiting their incentive to increase production.

Access and control of an animal in dairy farming

Results on access to and control over animals are presented in Table 3. The findings show that there are differences in ownership and control of an animal between women categories. Those who are in groups seem to have authority than their counterparts who are not in group. However, access of an animal is not statistically significant at $p=0.16$. Although, considering the control of an animal and ownership, women in groups have more control (30.4%) than women who are not in groups (16.9%), this is statistically significant ($p=0.001$). The probable reason could be due to the fact that majority of women in groups own dairy cows, which were given by the NGO such as Heifer Project International and Global Partners.

Table 3: Distribution of respondents by access, ownership and control of animals (N= 150)

Category	Access			Control		
	WIG %	WNIG %	Entire sample%	WIG %	WNIG %	Entire sample%
Husband	17.7	26.8	22.0	36.7	73.2	54.0
Wife	30.4	18.3	24.7	30.4	16.9	24.0
Husband and wife	51.9	54.9	53.3	32.9	9.9	22.0
Total (n)	79	71	150	79	71	150
Chi-square p-value	0.16			0.001		

WIG=Women in groups WNIG =Women not in groups

The findings imply that group membership likely provide ownership and control over animals in the dairy enterprise in Arumeru district. Women benefit when they are involved in decision-making about the animals they manage even without legal ownership rights. A study carried by IFPRI (2001) revealed that it is common for women to operate a productive enterprise with smaller animals such as goats, sheep, poultry, and pigs, since the initial costs are lower and profits may be low, and men are less likely to interfere. Men prefer to own larger animals such as dairy cattle because they are more profitable and bring greater personal status.

According to the interview conducted, the respondents revealed that several NGOs such as Global Partners and Heifer Project International (HI) have assisted women to obtain dairy cows in some villages in Arumeru district at lower cost and with simple arrangements.

Results obtained in Arumeru are well supported by the study conducted in Kenya by Beth (2001), who found that some livestock schemes allocate animals only to women, assuming they make decisions independently and will improve their good position by bringing wealth into the household. Beth (2001) also found that some women groups maintain legal ownership of animals and may decide to remove the animals from homes when a husband misbehaves. Women's empowerment as well as decision-making power and control over resources especially over large and valuable animals such as cattle is strengthened through group formation/action and social support among women themselves.

Access and control of income in dairy farming

Researches done by FAO (2005) in Africa, Asia and Latin America has found that improvements in household food security and nutrition are associated with women's access to and control of income and their role in household decisions making on expenditures. This is because women tend to spend a significantly higher proportion of their income than men on food for the family. Results on access to and control of income from dairy in Arumeru district are presented in Table 4.

Table 4: Distribution of respondents in access and control of income from dairy farming

Category	Access			Control		
	WIG %	WNIG %	Entire sample%	WIG %	WNIG %	Entire sample%
Husband	19.0	59.2	38.0	31.6	59.2	44.7
Wife	39.2	15.5	28.0	35.4	26.8	31.3
Husband and wife (both)	41.8	25.4	53.3	32.9	14.1	24.0
Total (n)	79	71	150	79	71	150
Chi-square p-value	0.01			0.02		

WIG=Women in groups WNIG =Women not in groups

Findings from this study show that women in groups are better off in terms of having access to ($p=0.01$) and

control ($p=0.02$) of income obtained from selling the dairy products than their counterparts who are not in groups. Likewise, women in groups have more access to and control of income than their respective husbands contrary to women who are not in groups. Variation observed in these results reveal that women members are relatively advantageous in the control of household resources and reduced men dominance tendencies. Following the interviews with the District Veterinary Officer, it was further noted that most of Wameru and Waarusha men are the ones who traditionally control income from dairy farming.

Findings from this study are also supported by other studies by FAO (2005; 2011) and IFAD (1999), which found that improvements in household food security and nutrition are associated with women's control over income and their inclusion in household decision making process on expenditures and other family issues, whereas men tend to use their income for longer-term investments and entertainments.

In addition, results in this study imply that when women are well involved in managing household projects, their capacity over decision making is also improved. This is supported by a study conducted by (Beth 2001) who observed that women benefit most, when they have decision-making authority about the animals they manage and milk sales even without legal ownership rights.

Access to education, training opportunities, and extension services

Women's limited access to education and training opportunities and extension services subject them into a subordinate role, to the detriment of their own development and that of society as a whole (FAO 1995). The results on the distribution of the respondent's access to education and training opportunities as well as extension services are presented in Table 5

Table 5: Distribution of respondent's in access to seminars opportunities, training and extension.

Category	WIG %	WNIG %	Entire sample%	Chi-square p-value
Husband	15.2	31.0	22.7	
Wife	75.9	60.6	68.7	
Husband and wife	8.9	8.5	8.7	
Total (n)	79	71	150	0.06

Results show that majority (75.9%) of women in groups have access to training opportunities compared to their colleagues (60.6%) who are not in groups. However, the distribution among the two groups was not statistically significant ($p=0.06$). Also the findings reveal that access to education opportunities and extension services is reaching more men in households whose women are not members of dairy farming groups. The difference observed in this study reveal that group membership gives women more opportunities in participation of training, workshops and seminars related to dairy farming. According to Arumeru District Veterinary Officer, women in Arumeru district who are in groups have opportunity to attend trainings that are provided by livestock training centers nearby such as Tengeru Livestock Training Institute (LITI), National Artificial Insemination Centre (NAIC) and those conducted by other development agencies such as Heifer Project International and various progressive farmers in Arusha.

Conclusion

- The study has clearly shown the gender roles of dairy farming management at Arumeru District, Northern Tanzania. Women still bear more burdens in this enterprise such as fetching animal feeds, milking, cleaning barn and marketing of milk products just to mention a few. It was also observed that, men and children were less involved in these activities.
- Despite of several benefits that accrued from dairy production at household level, group membership empowered women to gain control and access over income obtained from dairy farming. Access to and control of income was not proportional to individual's input. It was worse for women who were not in groups whereby their husbands had more access and control over the income obtained from sales of dairy products.
- Women in groups were likely to be empowered in several aspects such as production, management and decision-making over revenues and expenditures obtained from sales of dairy products

Recommendations

- Given the benefits of dairy groups, women who are not yet in groups are encouraged to join or form women dairy groups. Similarly, to realize the optimal performance of these groups, several efforts such as active participation of group activities among members, more financial and technical support from NGO's, development partners and government agencies are needed.
- Other household members such as husbands and male children should participate fully in management of dairy enterprise. This will not only decrease the burden to women but also increase the level of production sustainability and eventually increased household income.

- Apart from involvement in group membership and improving gender relations in dairy farming, further researches should be conducted to determine other factors such as policy to be in place and institutions which would improve dairy farming among small holder farmers in Arumeru district.
- Policy makers should formulate policies which can effectively address gender issues such as gender empowerment and gender mainstreaming for sustainable development of dairy farming
- Identify and support towards the women's roles as livestock owners, processors and users of livestock products while strengthening their decision-making power and capabilities. These are the key aspects in promoting economic and social empowerment of the women and consequently provide a way to enable rural women to break the cycle of poverty.

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