J. Farm Sci., 35(3): (399-404) 2022

RESEARCH PAPER

Socio -economic characteristics of dairy farm women and their role in different dairy farming activities

KARRE PREETHI AND GEETA P. CHANNAL

Department of Extension and Communication Management, College of Community Science
University of Agricultural Sciences, Dharwad - 580 005, Karnataka, India
E-mails: preethigoud412@gmail.com, geetrajpatil@yahoo.co

(Received: December, 2021 ; Accepted: August, 2022)

Abstract : The present study on the socio-economic characteristics of dairy farm women was taken up in Vikarabad and Mahabubnagar district of Telangana state. By random sampling technique from four villages, 30 dairy farm women were selected thus, making a total sample size of 120 dairy farm women. The primary data was collected by personal interview method with the help of a pre-tested structured interview schedule. The data was analysed using frequency, percentage and correlation. The socio-economic characteristic results showed that, 55.83 per cent of the dairy farm women belonged to the middle age group (31 to 50 years), 23.33 per cent had education up to PUC, 69.16 per cent were married, 70.83 per cent belonged to nuclear family,60.83 per cent belonged to small size family, 33.34 per cent had small land holding (1 to 2.5 acre), 56.67 per cent had 12 to 23 years dairy experience, 53.33 per cent had medium herd size (4-7 animals) and 49.17 per cent had medium daily milk yield of 6 - 10 litres/day. Little more than half (53.33 %) were having their annual income in the medium range. The results regarding the role of women in dairy farming activities revealed that 49.17 per cent of the dairy farm women had high role performance.

Key words: Dairy farm women, Dairy farming activities, Role performance, Socio-economic characteristics

Introduction

Dairy farming is an 'all season' business and instrumental in bringing socio-economic transformation in India. Agriculture and animal husbandry have a symbiotic relationship. Most of farmers rear cows and buffaloes along with their full time agriculture business. Agriculture households with some cattle herds are able to withstand distress during extreme weather conditions and lockdown pandemic like Covid-19. Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing nutritional benefits, employment opportunities, income generating particularly for small and marginal farmers.Women in India are responsible for the majority of livestock management. In fact, livestock is becoming feminized, around 90.00 per cent of the rural women are involved in agriculture, dairying, sericulture, and allied activities (Dudi *et al*., 2019). In fact, animal husbandry is becoming feminized and dairying in our country is mainly overlooked by female as they are having command over this enterprise (Jadav *et al*., 2014). Unemployment is the biggest challenge that the country facing in the process of its development. It had been globally accepted that entrepreneurship development results in overall economic and social development of the nation. Developing entrepreneurship among people brings them into main stream and thus leads to economic development. (Channal, 2016). Animal husbandry and dairying are increasingly recognized across the world to play a more constructive role in promoting rural welfare development and reduce poverty by generating employment at farm level. It is a fact that, the role of farm women in dairy sector is much more than that of men. It is undeniable that, farm women play an important role in comparison to their male counterparts.Dairy farming can be considered as an entrepreneurial sector especially for women because rural women are actively involved in dairy related as it is in the same dwelling activities and helps in generating income for self development and upliftment of their families. Development of dairy sector provides continuous income, improves diet, standard living and reduces unemployment to several rural poor. Dairy enterprises support the agricultural rural households by providing gainful employment, manure to the farm, nutrition to the family and steady income to most of the families. Women actively participate in different dairy activities like animal management, production, animal care and other aspects of dairying and is considered as a domestic activity. Most of the activities associated with dairy farming are done by dairy farm women. They are involved in both household work, child-care along with many activities such as cleaning of animal shed and utensils, milking, care of animals and new-born calf and compost making. Under feeding activities women is actively involved in watering, feeding, fodder collection, feeding the young calf, storage of concentrates, and soaking of concentrates. Under breeding activities women are involved in taking animals for pregnancy diagnosis, care during pregnancy and arranging bedding materials during parturition were performed by farm women. Dairy farm women also take care of healthcare activities like care of sick animals, first aid of common diseases and vaccination, etc. women practising dairy farming besides doing hard household chores, also undertake the taxing job of cattle rearing (Vallapureddy, 2013). Hence, this study was planned to know the socio –economic characteristics of dairy farm women and their role in different dairy farming activities.

Material and methods

The study was conducted in Mahbubnagar and Vikarabad districts of Telangana state during the year 2020-21. The districts were purposively selected for the study because of having highest milk production and a greater number of dairy farmers.

To select the respondents, lists of dairy farm women members were collected from dairy cooperatives. The "*survey based research"* design was used for the study. Two taluks were selected from each district. One village from each taluk was taken for the study. Totally four villages *viz.,* Dharmapur from Narva taluk, Aloor from Jadcherla taluk, Dhoma from Domataluk andNamderpur from Bommraspet taluk were selected. 60 respondents were randomly selected from each district and 30 respondents from each taluk. Further, from each village, data was collected from randomly selected 30 members each thus the sample consisted of 120 dairy farm women for the study. The data was collected by personal interview method with the help of a pre-tested structured interview schedule. The collected data from the respondents were scored, tabulated and analysed using the following statistical tools such as frequency and percentage.

Results and discussion

Table 1 shows the socio-economic characteristics of dairy farm women.

Age

The data in the Table 1 indicated that, little more than half (55.83 %) of the dairy farm women belonged to middle age group, almost one fourth (24.17 %) of them belonged to old age group and 20.00 per cent belonged to young age group. The reason for this could be that, middle-aged dairy farm women tend to have more control over their finances and can make independent decisions about how to put their ideas into action. Middle aged women farmers have more responsibility towards the family and are more efficient and experienced than the young dairy farm women. Usually, dairy farming needs good experience in the field therefore women of age 31-50 are actively engaged in dairy farming. The middle age women are more eager, interested to earn additional income from dairy farming and thereby improving their livelihood status. Young people lack experience, while the elderly lack risk tolerance and interest. The results are similar with the studies conducted by Kathiriya *et al.* (2013) and Gupta *et al.* (2020).

Education

With regard to level of education (Table 1), it could be seen that, 23.33 per cent of the dairy farm women had education upto PUC followed by primary and high school education (17.50 %) each, and only 06.67 per cent had had education upto graduation and above. Twenty per cent were illiterates. This could be due to parents and children realising the importance of formal education. The other reason could be that, it might be due to the fact that the dairy farm women had attended basic education and were dropout from school due to early marriages and were engaged in their farm and family activities taking care of children in the family. Hence, there was no scope for their higher education. Twenty per cent of dairy farm women belonged to illiterate category which might be due to ignorance and less contact with other educated people. Inspite of being illiterates they are able to take up all the activities in dairy farming successfully. Poor financial circumstances and lack of awareness about the importance of education among dairy farm women, and a lack of educational resources in rural areas could all contribute to the high rate of illiteracy. The results coated by Gulkari *et al.* (2014) and Radhakrishnan *et al.* (2016) indicated that dairy farm women had education upto PUC.

Family type

The data presented in the Table 1 showed that, 70.83 per cent of the dairy farm women belonged to nuclear type of families and rest of them (29.17 %) belonged to joint type of families. India is seeing a rise in nuclear families. During the investigation period, the current study revealed the same (Table 1). Most of the respondents must have chosen to live in nuclear families out of a desire to live independently with proper housing and basic amenities, as well as to provide a better future for their children. Nuclear families also contribute to a planned and cost-effective way of life. Aside from changing family values as a result of modernization, the above findings may have been influenced by these factors. The results are similar with the studies conducted by Gulkari *et al.* (2014) and Reshma *et al.* (2014) that dairy farm women belonged to nuclear family.

Family size

The data presented in the Table 1 showed that, 60.83 per cent of the dairy farm women belonged to small size families with less than four members and the remaining dairy farm women (28.33 % & 10.84 %) belonged to medium with five to eight members and large families with more than eight members respectively. The reason could be that the respondents families might thought that small size family could give their children more parental attention and educational advantages, which is generally raise the child self-esteem. The financial costs of maintaining a household are lower. It is easier for both parents to combine careers with family life. The general stress level is lower because there often are fewer conflicts and less rivalry. The results are similar with the studies conducted by Radhakrishna *et al.* (2016).

Marital status

The information in Table 1 regarding marital status revealed that, 69.17 per cent of the dairy farm women were married, 18.33 per cent of them were widow and almost thirteen per cent (12.50 %) of the dairy farm women were unmarried (06.67 %) and divorced (05.83 %).The reason for this could be that married women are the caretakers of household food security, look after household, rearing of children, taking care of elderly and ill members of the family and also involves in most of the task in dairy farming activities. Hence, married women have a greater sense of responsibility for their families. The above results get support from the studies conducted by of Kumari *et al.* (2015).

Size of the land holding

The data in the Table 1 showed that, 33.34 per cent of the dairy farm women possessed small size landholding, 30.00 per cent were semi- medium landholder, an equal per cent (14.17 %) were marginal and medium landholders, and only five per cent of respondents were landless and very few (03.34 %) possessed large land holdings. This could be due to the fact of law of inheritance. The farming land gets divided and sub divided. The holding become smaller with each generation as it

passes with division from generation to generation. The respondents get separated from joint family and maintained dairy as one of the subsidiary occupation along with agriculture for better living. The results are in accordance with the findings of Deepanka (2018).

Herd size

The data in the Table 1 shows that, little more than half (53.33 %) of the dairy farm women had medium herd size and remaining had small and large (35.00 % & 11.67 %) type herd size respectively. It may be due to the fact that women were involved in most of the household chores and taking care of family & children. So they can manage medium herd size efficiently. The reason for not possessing a greater number of animals by dairy farm women might be due to high cost of purchasing the milch animals, and also that most of the dairy farm women had medium income of the family, small size land holding, non-availability of space to house for more animals. Similar finding were recorded by kathiriya *et al.* (2013) where most of dairy farm women had medium herd size.

Dairying experience

It is clear from the Table 1 that, 56.67 per cent of the dairy farm women had medium dairy farming experience, 40.00 per cent of the women had low and only 03.33 per cent had high dairy farming experience. The reason could be concluded that, most of the women practising dairy farming belonged to middle age category and they involve in dairy farming as one of the subsidiary occupation after they married. Due to the current state of unemployment among educated youth, they are proved to begin with dairy farming profession allied with agriculture. Dairy experience provides better understanding in the field of dairy enterprises. The higher the experience in dairy farming will help the respondent to adopt good scientific dairy farming practices and thus will help to enhance the production. Similar finding were recorded by Raina *et al.* (2016) where most of dairy farm women had medium dairy experience.

Daily milk yield

It is clear from Table 1 that, almost half of the dairy farm women (49.17 %) obtained daily milk yield between 6 – 10 litres and the remaining half of the dairy farm women had daily milk yield between 1 - 5 litres (43.33 %) and 10 - 15 litres (07.50 %). The reason for this could be that most dairy farm women had medium herd size (4 -7 animals). The respondent's daily milk yield was determined by the total milk production from milking animals. It may also be concluded that the majority of dairy farm women owned local buffaloes and cows rather than better breeds of animals due to the high cost of cross breed/improved animals and also required additional care for their maintenance. Daily milk yield can be considered as a booster or motivation for dairy farm women because higher the daily milk yield results in higher income. The results are similar with the findings of Kholiya (2019).

Income from dairy farming

The data presented in Table 1 revealed the contribution of dairy farming to total annual income. It was observed that 47.50 per cent of the dairy farm women had medium income from dairy farming followed by low (45.00 %) and high (07.50 %) income from dairy farming.The reason which were quoted by the respondents during the time of investigation were due to forced sale of milk to local people during the time of covid-19. And also due to small size land holding which force them to provide the feed in restricted amount to the animals. Total income from dairy farming depends on sale of milk, selling of dairy products. The results are similar with the findings of Kholiya (2019).

Family annual income

The information in the Table 1 revealed that, little more than half (53.33 %) of the dairy farm women had medium level of family annual income followed by low (40.00 %) and high (06.67 %) level of family annual income. The reason could be that due to medium herd size by dairy farmers and also additional income generated through dairy farming had probably contributed much to total income. The results are similar with the findings of Jagannath (2014).

Role of women in dairy farming activities

The role of women in different dairy farming activities were assessed by taking four major aspects in dairy farming. Feeding and watering, management, processing and marketing and health care of animals are the four aspects considered. The data regarding the four major role of women in dairy farming activity are presented below (Table 2).

Feeding & watering

The data presented in Table 2 revealed that, majority (78.34%) of the dairy farm women were actively engaged in chaffing of fodder, feeding of animals (67.50 %), watering of animals (63.34 %), bringing fodder for animals (58.34 %) and taking animals for grazing (55.00 %).One fourth of men, were involved in bringing fodder for animals (25.83 %), equal per cent of mem were involved in chaffing of fodder and taking animals for grazing (21.66 %), and taking animals for grazing (21.66 %) and almost ten per cent of men were involved in feeding and watering of animals. While 25.83 per cent of children were also participated in watering the animals, taking animals for grazing (23.34 %) and feeding the animals (22.50 %) and 15.83 per cent bring fodder for animals. The reason could be that, women were incharge of chores such as grazing the animals, bringing fodder for animals, chaffing and storing fodder, and so on. All feeding and watering tasks were performed mostly by women. It was discovered that women in old age category were mostly responsible for taking the animals out for grazing because they were unable to perform other jobs that required physical exertion. Table 2 also revealed that children were involved in performing activities such as watering and feeding the animals and taking animals for grazing. During the investigation, the reason obtained for children involved in dairy activities are due to Covid-19, school closures caused children to stay at home and engage in dairy activities. The results are similar with the findings of Kathiriya (2013).

Management

In management activities, 100.00 per cent of the dairy farm women were involved in making cow dung cake, dung disposal

Table 1. Distribution of dairy farm women according to socio-personal characteristics (n=120)

Categories	Frequency	Percentage
Age		
Young (Below 31 years)	24	20.00
Middle (31 to 50 years)	67	55.83
Old (Above 50 years)	29	24.17
Education		
Illiterate	24	20.00
Primary	21	17.50
Middle school	18	15.00
High school	21	17.50
PUC	28	23.33
Graduate and above	08	06.67
Family type		
Nuclear	85	70.83
Family size	35	29.17
Small (upto 4)	73	60.83
Medium (5-8)	34	28.33
Large (8 or more)	13	10.84
Marital status		
Unmarried	08	06.67
Married	83	69.17
Widow	22	18.33
Divorced/separated	07	05.83
Land holding		
Landless	06	05.00
Marginal (0 to 1 acres)	17	14.16
Small (1 to 2.5)	40	33.34
Semi-medium (2.6 to 5)	36	30.00
Medium (5 to 10)	17	14.16
Large (more than 10)	04	03.34
Herd size		
Small (< 4 animals)	42	35.00
Medium (4 – 7 animals)	64	53.33
Large (> 7 animals)	14	11.67
Dairy experience		
Low (Upto 11 years)	48	40.00
Medium (12 – 23 years)	68	56.67
High (Above 23 years)	04	03.33
Daily milk yield		
Low (1- 5 litres/day)	52	43.33
Medium (6 – 10 litres/day)	59	49.17
High (11-15 litre/day)	09	07.50
Income from dairy farming		
Low (< 23,333/-)	54	45.00
Medium (23,333 – 46,666/-)	57	47.50
High (> 46,667 /-)	09	07.50
Family annual income		
Low (< 1,06,667 lakh)	48	40.00
Medium (1,06,667 – 2,13,333 lakhs)	64	53.33
High (> 2,13,333 lakhs)	08	06.67

(94.17 %), cleaning of milk utensils (89.17 %) and cleaning of animal shed (80.00 %), washing and grooming of animals (78.33 %) and milking (61.67 %). Less than one fourth (23.33 %) of women were involved in record maintenance. It was also observed that, majority (71.67 %) of men were involved in record maintenance, milking (37.50 %), washing and grooming of animals (19.17 %), cleaning of animal shed (15.83 %). While 10.83 per cent of children were involved in cleaning of milk utensils, almost five per cent of children involved in dung disposal and record maintenance. A merger per cent of children involved in washing and grooming of animals, cleaning of animal shed and milking. The results in (Table 2) revealed that dairy farm women were the sole performer of making dung cakes, dung disposal and cleaning of milk utensils. Women were also responsible for cleaning of animal shed and grooming and washing of animals. With locally accessible materials, women actively engaged in the construction of animal barns. The reason could be that management aspects were female-

Table 2. Distribution of dairy farm women in various dairy farming activities (n=120)

Activities	Women		Men		Children	
	F	%	f	%	f	%
a) Feeding & Watering						
Feeding animals	81	67.50	12	10.00	27	22.50
Watering the animals	76	63.34	13	10.83	31	25.83
Taking animals for grazing/fields	66	55.00	26	21.66	28	23.34
Bringing fodder for animals	70	58.34	31	25.83	19	15.83
Chaffing of the fodder	94	78.34	26	21.66	00	00.00
b) Management						
Washing and grooming of animals	94	78.33	23	19.17	03	02.50
Cleaning of animal shed	96	80.00	19	15.83	05	04.17
Dung disposal	113	94.17	00	00.00	07	05.83
Making Cow dung cakes	120	100.00	00	00.00	00	00.00
Cleaning of milk utensils	107	89.17	00	00.00	13	10.83
Milking	74	61.67	45	37.50	01	00.83
Record maintenance	28	23.33	86	71.67	06	05.00
c) Processing & marketing						
Sale of milk and milk products	70	58.33	46	38.33	04	03.34
Processing of dairy products	99	82.50	21	17.50	00	00.00
d) Health care						
Treatment/ contacting doctor	15	12.50	105	87.50	00	00.00
Vaccination/ AI	38	31.67	82	68.33	00	00.00
Care of calves, sick & pregnant animals	97	80.83	23	19.17	00	00.00

dominated activity. Men were not participating in domestic tasks like cleaning milk vessels. Majority of the farm women in the research area were unaware of record keeping, only 23.33 per cent of respondents kept records in the form of a little book or piece of paper. Women believed that obtaining loans/ credit from banks/cooperatives was entirely the responsibility of males. The results are similar with the findings of Kathiriya (2013).

Processing & Marketing

With regard to processing & marketing activities, majority (82.50 %) of dairy farm women involved in processing of dairy products and 58.33 per cent in sale of milk and milk products. It is also visible that, little more than one fourth (38.33 %) of the men are involved in sale of milk and milk products and only 17.50 per cent in processing of dairy products. A negotiate per cent (03.34 %) of children involved in sale of milk and milk products. Women's participation in processing & marketing was much valued. To supplement their income, women actively participated in milk processing and the production of various milk products like as ghee, butter, and khoa. They underlined the need of delivering milk to milk collection centres or neighbours. Another belief was that these activities would take more time. As a result, women processed on a small scale. They preferred to produce milk products for only household consumption. The results are similar with the findings of Kaur (2015).

Health care

With respect to health care, majority 80.83 per cent of dairy farm women were involved in care of calves, sick and pregnant animals. While, 31.67 per cent of women were involved in vaccination / AI and very few (12.50 %) involved in treatment / contacting doctor. It is clearly seen that, majority (87.50 %) and (68.33 %) of men are involved in activities such as treatment / contacting doctor and vaccination/ AI respectively. Only few (19.17 %) of men involved in care of calves, sick and pregnant animals. Women in their late middle age category actively participated in health care since they had learned the skills via observation and experience. The majority of the dairy farm women said that they needed a lot of training and understanding in terms of health care. Health care activities such as vaccination/ AI and treatment / contacting doctor were dominated by men. To get the animals vaccinated or AI or service centre, the husband typically carries the animal to the AI centre, and the women is stayed at her home to look after other animals. Breeding activities like AI sometimes require the animal to be taken outside the home to the veterinary surgeon. During the breeding of animals, sometimes the animals may violent and this needs men to control the violent animals. In these cases women are seen unfit in breeding activities. Heath care required technical aspects, which women lack. This is the reason for low participation of rural women in this type of activity. The results are similar with the findings of Rathod *et al.*(2012).

Overall role performance of dairy farm women

The data presented in Fig.1 revealed that, almost fifty per cent (49.17 %) of the women who are engaged in dairy farming had high level of role performance in various dairy farming activities followed by medium (43.33 %) and low (07.50 %) role performance in dairy farming activities. More than half (71.67 %) of men had low role performance in dairy farming activities, medium (22.50 %). A merger per cent (05.83 %) of men had high role performance in dairy farming. It was also observed that, 96.67 per cent of children had low role performance in dairy farming. A negotiable per cent (03.33 %) of children had medium and none of them had high level of role performance in dairy farming activities. The data from fig.1 revealed that, rural women

participation in dairy farming activities was found to be quite high when compare to men. This might be because traditionally, women are responsible for the activities such as giving feed and water to the animals, cleaning and bathing of animals, maintenance and cleaning of cattle shed, fodder collection, collection of cow dung and preparation cow dung cakes, and preparation of milk products. They also participate frequently in talking care of sick animals, care of pregnant animals, care of newborn calves.

Conclusion

As the dairy farm women they are raising animals in small scale traditional methods. They are not aware about the innovative/modern farming methods and improved techniques for dairy farming. Some farmers are losing their investment instead of being benefited. Proper business plan, well management and care can ensure maximum production and profit from dairy farming business. As majority of the respondents were showing low level of management practices, Hence, awareness camps and training programmes regarding scientific dairy management practices should be arranged for them. Dairy farm women have to adopt new and modern dairy farming tools, time and energy saving tools/ drudgery reducing technologies, etc. For this farmer need to undergo specialized trainings from different dairy institutes. Education also plays an important role in the adoption of dairy enterprise at commercial level because as the level of education increases experience also increases and rural women are able to adopt and understand new technologies in dairy farming. If women are educated, they can learn about new technologies and government initiatives taken for the betterment of women dairy enterprises. Govt must take initiatives and actions to increase the functional literacy for women via group approach so as to better perform in their enterprise management.

References

Channal G P, 2016, Impact of entrepreneurship development programme in North Karnataka. *Ph. D. Thesis, University of Agricultural Sciences*, Dharwad, Karnataka (India).

Deepanka, 2018, Analytical study on women entrepreneurial activities involved in dairy enterprise. *M. V. Sc. Thesis*, DUVASU, Mathura, Uttar Pradesh, (India).

Dudi K, Devi I and Kumar R, 2019, Contribution and Issues of women in livestock sector of India. *International Journal of Livestock Research,* 9(8): 37-48.

Gulkari K D, Nethravathi G, Onima V P and Gade Y, 2014, Profile analysis of dairy farm women in adoption of scientific practices. *International Journal of Agricultural Extension*, 2(3): 159-163.

Gupta A, I Saha A, Gupta R K, Chakraborty S and Singh D D, 2020, Socio-economic status of rural women dairy farmers in Surguja district of Chhattisgarh. *Bulletin of Environment, Pharmacology and Life Sciences,* 9(4): 112-116.

Jadav S J, Durga Rani V, Mudgal S and Dhamsaniya H B, 2014, Women empowerment through training in dairy farming. *Asian Journal of Dairy and Food Research*, 33(2): 147-153.

Jagannath J S, 2014, Entrepreneurial behaviour of dairy farmers. *M. Sc. (Agri.) Thesis,* MPVP., Rahuri, Maharashtra (India).

Kathiriya J B, Damasia D M and Kabaria B B, 2013, Role of rural women in dairy farming of Rajkot district. *Tamil Nadu Journal of Veterinary Animal Sciences,* 9(1): 239- 247.

Kaur K, 2015, Participation of rural women in dairy activities. *Journal of Krishi Vigyan,* 4(1): 72-75.

Kholiya M, 2019, A study on entrepreneurial behaviour of dairy farm women in Nainital district of Uttarakhand. *M. Sc. (Agri.) Thesis,* G. B. Pant University of Agriculture and Technology, Pant Nagar, Uttarakhand (India).

Kumari S, Sethi N, Malik J S and Yogi V, 2015, Need assessment of women dairy farmers. *Advanced Journal of Social Science*, 1(1): 35-42.

Radhakrishnan A, Gupta J, Kumar D R and Sreeram V, 2016, Participation of farm women in animal husbandry in Shimoga, Karnataka. *International Journal of Current Research,* 8(7): 33864-33869.

Raina International journal of current researchv., Bhushan B, Bakshi P and Khajuria S, 2016, Entrepreneurial behaviour of dairy farmers. *Journal of Animal Research*, 6(5): 1-7.

Rathod K P, Nikam T R, Landge S and Hatey A, 2012, Entrepreneurial behaviour of dairy farmers in western Maharashtra, India. *International Journal of Commerce and Business Management,* 5(2): 115-121.

Reshma, Bheemappa A, Natikar K V, Biradar N, Mundinamani S M and Havaldar Y N , 2014, Entrepreneurial characteristics and decision-making behaviour of farm women in livestock production activities. *Karnataka Journal of Agricultural Sciences,* 27(2): 173-176.

Vallapureddy M, 2013, Performance of women cooperative dairy - A study on Mulkanoor women cooperative dairy in Andhra Pradesh. *International Journal of Contemporary Business Studies,*4(3):49-62.