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RESEARCH ARTICLE

WOMEN AND LIVESTOCK KEEPING: AN ECONOMIC ANALYSIS

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ABSTRACT

In India, about 80 per cent of the female population live in rural areas and 86 per cent of the rural women works in agriculture and allied activities. Women provide much of the unpaid family labour to agriculture including animal husbandry. Caring animals is considered as an extension of domestic activities in Indian social system, and most of the animal husbandry activities like bringing fodder from field, chaffing the fodder, preparing feed for animals, offering water to animals, protection of animals from ticks and lice, cleaning of animals and sheds, preparation of dung cakes, milking, ghee-making and marketing of produce are performed by farmwomen. On an average, females spent about 294.41 minutes and 87.20 minutes daily for large and small ruminants keeping respectively. Imputed economic value of the time spent on animal based tasks by farm women was calculated to be Rs.70.60 and Rs.21.60 per day per household in large and small ruminants keeping respectively. Landholding did not influence the time spent by farm women for large ruminant's care in the study area but had a positive influence on the time spent by farm women on small ruminant's care. This measure underlines the economic importance of the functions carried out by farm women in the rural economy and in livestock farming.

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INTRODUCTION

In India, about 80 per cent of the female population live in rural areas and 86 per cent of the rural women work in agriculture and allied activities (Borah, 1998). Female involvement in farming activities is a common feature in Indian rural setting. Women perform a variety of roles, of which many are of greater economic significance (Bhople and Palki, 1998). Role of women in agricultural sector, especially as keepers of livestock, greatly improves world food security by enhancing health and livelihood of individual families (Sinn *et al.*, 1999). Women provide much of the unpaid family labour to agriculture (Thakar and Patel, 1998) including animal husbandry. Having been highly employed in livestock rearing activities (Birader, 1986 and Bhogalet *et al.*, 1988), rural women were found to devote 90 per cent of their time on cattle care, making it more or less a female domain (Veena *et al.*, 1986). Caring animals is considered as an extension of domestic activities in Indian social system, and most of the animal husbandry activities like bringing fodder from field, chaffing the fodder, preparing feed for animals, offering water to animals, protection of animals from ticks and lice, cleaning of

animals and sheds, preparation of dung cakes, milking, ghee-making and marketing of produce are performed and decided upon by women (Puri, 1974). They play a significant and crucial role in agricultural and allied activities including livestock production (Jain and Verma, 1992). There is limited and under-statement of statistical data on women working on household farms (Wijaya, 1993). Hence, a systematic valuation of time spent by females for household activities including animal care needs attention for policy intervention (Guleria and Agnihotri, 1985). The contributions of rural women, though not less than that of men in terms of time and effort, are invisible because they are largely unpaid and home based. Their contributions are continued to be given lesser importance while formulating livestock / rural development programmes. Though the association between women and livestock production needs productive exploitation, especially while aiming at rural development through livestock development, lack of empirical evidence on the magnitude of the female participation and the extent and nature of their association in livestock farming operations, however, limit our efforts in exploiting this linkage. This study has been planned to fill this gap, arising out of the dearth of documented evidence on female participation in livestock farming.

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The specific objectives of the study are

- To study the functions carried out by farm women in

livestock farming;

- To study the time spent by farmwomen in different activities of livestock care.

MATERIALS AND METHODS

Villupuram District of Tamil Nadu was purposively selected for the present study, for this district has the highest cattle population and ranks third across the districts of the state in total livestock population (Livestock Census, 2004) and 92.56 per cent of total women population of this district reside in rural area (Director of Census Operation, Tamil Nadu, 20011). Multistage random sampling technique was used to select the respondents. The chosen district comprised 22 blocks of which, two blocks, viz., Kallakurichi and Thiyagadurgam were randomly selected. In the next stage, two villages from each selected block were chosen randomly. In total, 120 farmers were chosen again randomly from the selected four villages, 30 from each village, and it was ensured that the sample represented all the land holding class categories.

The study was taken up during the months of April and May, 2010 and the data collected from the sample units related to the year 2009-2010. Relevant data were collected from the chosen respondents through personal interview using a pre-tested interview schedule. Cross checks were made to minimise the errors due to recall bias and also to ensure reliability of the information provided by the respondents.

RESULTS

The functions carried out by females in livestock keeping are listed out in Table- 1. The major functions included feeding, watering, housing, breeding, health care, milking, hygiene and marketing, with regard to livestock farming were found to be performed by farm women. Average time spent on these tasks by farm women labour in livestock keeping is illustrated in Table 2. On an average, females spent about 294.41 minutes and 87.20 minutes daily for large and small ruminants keeping respectively. Of the time spent for large ruminants, they spent about 46 per cent of the time for feeding, 21 per cent for

Table 1. Animal related tasks carried out by farm women

Tasks	Sub-Tasks
Feeding	<ul style="list-style-type: none"> • Feeding concentrates • Feeding roughage • Feeding greens • Bringing animals for feeding • Taking animals for grazing • Storing feeds • Bringing greens from the field • Manger and feeding vessels cleaning
Watering	<ul style="list-style-type: none"> • Fetching water • Bringing animals for watering • Vessels cleaning
Housing	<ul style="list-style-type: none"> • Housing the animals • Penning and Depenning the animals
Breeding	<ul style="list-style-type: none"> • Identifying animals in heat • Sending / taking animals for service • Caring pregnant animals
Animal Health Care	<ul style="list-style-type: none"> • Identifying sick animals • Sending / taking animals to hospital • Sending / taking animals for vaccination • Sending / taking animals for Mass Contact Programmes (MCP) • Maintaining sick animals
Milking	<ul style="list-style-type: none"> • Bringing animals for milking • Udder cleaning • Hand and udder disinfection • Cleaning milking vessels • Milking • Keeping milk safe
Hygiene	<ul style="list-style-type: none"> • Cleaning animals • Cleaning animal house • Dis-infecting animal house
Marketing	<ul style="list-style-type: none"> • Selling milk and products • Transporting milk and products • Storing milk and products • Processing milk and product making • Collection of money for milk and products sold

Table 2. Average time spent on animal based tasks by farm women

Tasks	Average time spent per day per household (in minutes)	
	Large Ruminant Keeping	Small Ruminant Keeping
Feeding	134.53 (45.71)	64.52 (74.00)
Watering	24.94 (8.46)	6.83 (7.82)
Housing	9.16 (3.16)	6.73 (7.72)
Breeding	7.01 (2.38)	0.81 (0.91)
Animal Health Care	9.26 (3.14)	1.43 (1.63)
Milking	60.74 (20.63)	-
Hygiene	13.16 (4.47)	6.88 (7.90)
Marketing	35.61 (12.47)	-
Total	294.41 (100)	87.20 (100)
Imputed economic value of the time spent (in Rs.) per day per household*	70.60	21.8

Figures in the parentheses indicate percentages to their respective totals.

* Imputed economic value was calculated at the rate of Rs.120/- per 8 hours of work.

Table 3. Relationship between land holding and average time spent by farm women (minutes per day per household)

Activities	Landless		Marginal(0-2.5 acres)		Small(2.6-5.0acres)		Large(5.1 and above)		Overall	
	Large Ruminants	Small Ruminants	Large Ruminants	Small Ruminants	Large Ruminants	Small Ruminants	Large Ruminants	Small Ruminants	Large Ruminants	Small Ruminants
Feeding	141.58 (46.56)	34.29 (77.68)	125.46 (46.62)	58.33 (63.87)	135.21 (45.06)	71.67 (77.62)	135.92 (45.28)	93.75 (77.92)	134.54 (45.71)	64.51 (74)
Watering	24.96 (8.21)	5.29 (11.98)	21.73 (8.07)	5.83 (6.38)	26.72 (8.90)	8.33 (9.02)	26.23 (8.74)	7.81 (6.49)	24.91 (8.46)	6.82 (7.82)
Housing	8.81 (2.90)	2.57 (5.82)	8.08 (3.00)	4.83 (5.29)	10.10 (3.37)	7.50 (8.12)	9.58 (3.19)	12 (9.97)	9.14 (3.10)	6.73 (7.72)
Breeding	6.85 (2.25)	0.29 (0.66)	6.27 (2.33)	0 (0)	7.38 (2.46)	1.17 (1.16)	7.58 (2.52)	1.75 (1.45)	7.02 (2.38)	0.80 (0.91)
Animal Health Care	9.46 (3.09)	1.57 (3.56)	8.15 (3.03)	1.67 (1.23)	9.17 (3.06)	1.17 (1.16)	10.23 (3.41)	1.25 (1.04)	9.25 (3.14)	1.42 (1.63)
Milking	65.15 (21.42)	0 (0)	58.73 (21.82)	0 (0)	58.90 (19.63)	0 (0)	60.12 (20.03)	0 (0)	60.73 (20.63)	0 (0)
Hygiene	13.12 (4.45)	0.14 (0.32)	10.19 (3.79)	21.17 (23.18)	14.21 (4.74)	2.50 (2.70)	15.08 (5.02)	3.75 (3.11)	13.15 (4.47)	6.89 (7.90)
Marketing	38.15 (12.53)	0 (0)	30.50 (11.33)	0 (0)	38.34 (12.78)	0 (0)	35.42 (11.80)	0 (0)	35.60 (12.09)	0 (0)
Total	304.08 (100)	44.14 (100)	269.12 (100)	91.33 (100)	300.34 (100)	92.33 (100)	300.15 (100)	120.31 (100)	294.34 (100)	87.17 (100)
Imputed Economic Value (in Rs.)	25.34	3.68	22.43	7.61	25.00	7.69	25.01	10.02	24.53	7.26

Figures in the parentheses indicate percentages to total

milking and 12 per cent for marketing the milk and milk products, while for small ruminants, they spent about 74 per cent in feeding tasks and around 7 per cent each for watering, housing and hygienic maintenance. From Tables 1 and 2, it could be concluded that most of the tasks related to livestock keeping were performed only by the farm women. These findings are in line with the findings of Puri (1974b), Singh and Bhati (1985), Sisodia (1985), Susheela *et al.* (1991), Jain and Verma (1992), Nisha (1996) and Saikia (1999). Imputed economic value of the time spent on animal based tasks by farm women was calculated to be Rs.70.60 and Rs.21.80 per day per household in large and small ruminants keeping respectively. This measure underlines the economic importance of the functions carried out by farm women in the rural economy and in livestock farming. The relationships between operational land holding and the time spent by females in livestock based tasks are presented in Table 3. Female farmers in landless, marginal, small and large categories spent about 304.08, 269.12, 300.04 and 300.15 minutes per household per

day respectively in tending large ruminants. These figures for small ruminants keeping were 44.14, 91.33, 92.33 and 120.31 minutes respectively. The females spent more or less equal time for large ruminants keeping, except those in marginal farmer households who spent relatively lesser time. This might be due to the fact that they possessed lesser number of animals than that of other categories of farmers. The results are in line with the findings of Susheela *et al.* (1991) and Borah (1998) who observed that landholding did not influence the time spent by farmwomen on animal husbandry. In small ruminants keeping, the time spent by female increased with the increase in land holding. This could be attributed to the fact that women with larger land holding could afford to spend their time in lighter tasks like taking small ruminants for grazing which alone took more than 75 per cent of the time spent by females in small ruminants keeping.

Conclusion

The results of the study revealed that many of the tasks related to livestock keeping were performed by the farm women.

On an average, females spent about 294.41 minutes and 87.20 minutes daily for large and small ruminants keeping respectively. Imputed economic value of the time spent on animal based tasks by farm women was calculated to be Rs.70.60 and Rs.21.60 per day per household in large and small ruminants keeping respectively. Landholding did not influence the time spent by farm women for large ruminant's care in the study area but had a positive influence on the time spent by farm women on small ruminant's care.

Policy Suggestions

The results emanating from the study produce well-documented evidence that farm women have a close association with livestock farming in the state. These results tend to suggest a more active role for this segment of the rural society so as to achieve rural development through combining women and livestock development. In the light of these results the following policy suggestions are made to fully and productively exploit the women- livestock linkage.

- Channels of information, credit, inputs and access to markets have to be aimed at women as they played a very important role in livestock keeping and decisions related to livestock productions.
- Extension assistance regarding livestock rearing have to be directed towards women to enhance their productive use of labour. The gender compositions of extension officers make it difficult for women farmers to obtain extension advice. Hence appropriate female frontline extension staff have to be employed to interact with the female farmers.
- Bringing the services available to rear the animals physically closer to women.
- Suitable training programmes for the skill development of rural farmwomen on animal keeping may be organised so that their earning potential may be increased and improve the efficiency of the farmwomen. Their participation in such programmes is likely to bring forward the real and practical problems that need immediate attention of the policy makers.
- Promoting intensive livestock rearing in rural areas may encourage female to participate more in livestock keeping as this practice did not require farm women to take animals for grazing far away from home.
- Encouraging the formation of rural women livestock farmer's co-operative society may increase female participation in livestock rearing.

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