



Ascertaining the role performed by the Paniya tribal households in breeding, feeding, healthcare and management practices of dairy farming

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ABSTRACT

Agriculture and livestock are complimentary to each other in the Indian farming system in all regions, including the hilly ones. A wide range of hilly people has undertaken milk production as their main occupation. Tamil Nadu is a treasure for indigenous technical knowledge in agriculture and allied activities. According to 1991 census, the total population of the Nilgiris District is 710,214. Out of this, the tribal population accounts for 25,048. There are 36 scheduled tribe communities living in Tamil Nadu. Farm women's contribution in agriculture is not adequately reflected in the available statistics and hence there is need for better understanding in this regard. The studies are lagging in the area of role performance of women in hilly tribal households. So this study clearly stated the regular role and sometimes role played by the females in the dairy farming activities like attending the animal at the time of parturition, post parturient care, cutting of grass and chopping of straw, grazing, feeding and watering of animals, care of new born calf and sick animals, milking of animals to provide weather protection and preparation of milk products. Whereas, their counterparts performed the outside activities starting from taking animals to the hospital to selling, purchasing of animals and keeping the account of milk products sold.

Key words: Breeding, Dairy farming, Management practice, Paniya tribals

India owns one of the largest livestock population in the world and is the largest global producer of milk (108.5 million mt). The share of dairying in the livestock sector accounts for about 65% (Economic Survey 2009–10). Tamil Nadu is a treasure for indigenous technical knowledge in agriculture and allied activities. The Paniyas, a tribal group, are found in *Gudalur* and *Pandalur* taluks of Nilgiris district of Tamil Nadu. The name Paniyas means labourer. They resemble the African tribes in their curly hair and thick lips, who came to India after shipwreck on the west coast. For these tribal households, dairying is one of the most important occupations to sustain their livelihood. Increased role of women in dairy sector, especially as keepers of livestock, greatly improves world food security by enhancing health and livelihood of individual families (Siva *et al.* 1999). The studies are lacking in the area of role performance, where we can not differentiate the exact role performed by the males and females of tribal households in the field of dairying. Keeping in view the above facts, this study in Nilgiris district of Tamil Nadu was been

designed with the specific objective: to ascertain the role performed by Paniya tribal households in dairying.

MATERIALS AND METHODS

The study was carried out in Nilgiris District of Tamil Nadu taking into account the tribe namely Paniyas. Three tribal habitations (having maximum population of particular tribe) were selected for the study. A sample of 17 households was selected randomly from each habitation. So, 51 households (51 males and 51 females) for Paniya tribe were selected (17 households × 3 habitations). Thus, a total sample of 51 tribal households for the above tribe was studied. Data were collected through a pre-tested and well-structured interview schedule. The role performance ability of the respondents was studied through the scale developed by Satyajit Roy (1998) after making necessary modifications. Respondents were directly questioned to indicate who performed the roles, male respondents or female respondents. These roles were categorized into regular, sometimes and never performed. To find out the association between the male and female workers in role performance of various dairy farming activities namely, breeding, feeding, healthcare and management practices chi-square test was used.

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RESULTS AND DISCUSSION

The role performed by the male and female respondents of 51 selected Paniya tribal households is given in Table 1; taking animals for artificial insemination (AI), breeding problems, pregnancy diagnosis (PD) etc. was performed regularly by 82.35% males followed by 17.65% males who performed only sometimes. Whereas, women attended the animal at the time of parturition and post parturient care of animal, and was sometimes performed and never performed by 37.26% and 56.86% males, respectively. The first activity was performed mostly by males instead of females because mostly male members bear the responsibility of taking animals to the hospital for artificial insemination (AI), breeding problems, pregnancy diagnosis (PD) etc., whereas, the other 2 activities were performed by females. The probable reason might be that they are traditionally trained in taking care of animals at the time of parturition and post parturient care. The chi-square values were also calculated to find out the association of male and female in breeding activities.

Out of the above-mentioned 3 activities, only the activity no. 2 was found highly significant. The probable reason may be that the first and third activity can be performed individually by male and female, whereas at the time of animal's parturition it is obvious that the help is essential through any means.

Role performed by tribal households in feeding activities: Majority of the activities (Table 2) in this field namely, feeding and watering to animals (50.98% regular and 33.33% sometime), cutting of grass (56.86% regular and 17.65% sometime), chopping of straw (58.82% regular and 11.77% sometime) and grazing of animals (52.94% regular and 21.57% sometime) were performed by the female respondents. From the data we can interpret, the males did not perform it regularly. The reasons of females' higher

involvement might be that those activities can be performed inside the home. But as far as the male respondents were concerned, they were more involved in field related activities.

Value of Chi-square test for the third and fourth activity of role performance in feeding activities were highly significant, whereas the first 2 activities were not significant (Table 2). The possible reason attributed may be that the physical works like chopping of straw as well as taking the animals for grazing need each other's help.

Role performed by tribal households in health care activities: Table 3 revealed that involvement of Paniya females in this field was also higher. Care of sick animals (47.06% regular and 41.18% sometime) and care of newborn calf (64.71% regular and 15.69% sometime) were mostly done by females. Whereas, taking animal to the hospital was done regularly by 72.55% males and sometimes done by 15.69% males. As the first two activities were mostly family related, the females managed them with more involvement apart from their regular household chores. But the third activity required taking animal to hospital or calling on a veterinarian was mostly done by males. The Chi-square values were also calculated for this variable (Table 3a).

The value of chi-square for association of male and female members for the first activity in role performance of health care was found to be highly significant, whereas the second and third activity were not significant. The reason for this might be that the women traditionally possess the quality of nurturing which makes them to take care of sick animals.

Role performed by tribal households in management activities: In the area of management activities, bathing of animal (56.86% regular and 31.37% sometime) and repairing of shed, equipments etc. (50.98% regular and 21.57% sometime) (Table 4) were mostly done by the Paniya males.

Table 1. Role performance of tribal households in breeding activities

n=51(M=51; F=51)			
Breeding activities	Category	M	F
Taking animal for artificial insemination (AI), breeding problems, pregnancy diagnosis (PD) etc. (A)	Regular	42(82.35)	0(0.0)
	Sometimes	9(17.65)	1(1.96)
	Never	0(0.0)	50(98.04)
Attend the animal at the time of parturition (B)	Regular	3(5.88)	26(50.98)
	Sometimes	20(39.22)	13(25.49)
	Never	28(54.90)	12(23.53)
Post parturient care of animal (C)	Regular	3(5.88)	37(72.55)
	Sometimes	19(37.26)	10(19.61)
	Never	29(56.86)	4(7.84)

Figures in parenthesis indicates percentage in their respective category. Chi-square value for role performance of tribal households in breeding activities: A, 18.21; B, 8.89**; C, 20.69. ** Significant at 1% level of probability.

Table 2. Role performance of tribal households (male and female) in feeding activities

n=51(M=51 and F=51)			
Feeding activities	Category	M	F
Feeding and watering to animals (A)	Regular	9(17.65)	26(50.98)
	Sometimes	13(25.49)	17(33.33)
	Never	29(56.86)	8(15.69)
Cutting of grasses (B)	Regular	7(13.73)	29(56.86)
	Sometimes	16(31.37)	9(17.65)
	Never	28(54.90)	13(25.49)
Chopping of straw (C)	Regular	9(17.65)	30(58.82)
	Sometimes	13(25.49)	6(11.77)
	Never	29(56.86)	15(29.41)
Grazing of animals (B)	Regular	7(13.73)	27(52.94)
	Sometimes	13(25.49)	11(21.57)
	Never	31(60.78)	13(25.49)

Figures in parenthesis indicates percentage in their respective category. Chi-square value for role performance of tribal households in feeding activities: A, 17.63; B, 12.31; C, 3.25**; D, 8.03**. Significant at 1% level of probability.

Table 3. Role performance of tribal households (male and female) in health care activities

n=51(M=51 & F=51)				
S.no	Health care activities	Category	M	F
1.	Care of sick animals (A)	Regular	10 (19.60)	24 (47.06)
		Sometimes	20 (39.22)	21 (41.18)
		Never	21 (41.18)	6 (11.76)
		Regular	4 (7.84)	33 (64.71)
2.	Care of a newborn calf (B)	Sometimes	16 (31.37)	8 (15.69)
		Never	31 (60.79)	10 (19.60)
		Regular	37 (72.55)	5 (9.80)
3.	Taking animals to the hospital/call on veterinarian (C)	Sometimes	8 (15.69)	4 (7.84)
		Never	6 (11.76)	42 (82.36)

Note: Figures in parenthesis indicates percentage in their respective category. Chi-square value for role performance of tribal households in health care activities: A, 6.98**; B, 17.62; C, 23.11. ** Significant at 1% level of probability.

Whereas the other activities like, milking of animals (80.40% regular and 9.80% sometime), control and massage of animals during milking (47.06% regular and 27.45% sometime), disposal of cow dung and cleaning of drain (78.43% regular and 13.73% sometime), preparation of cow dung cake (86.28% regular and 7.84% sometime), cleaning of sheds, mangers, equipments etc. (76.47% regular and 19.61% sometime), cleaning of dairy utensils (82.36% regular and 7.84% sometime) and weather protection to the animals (41.18% regular and 23.53% sometime) were mostly done by the females. Overwhelming role performance of the females was seen in management activities compared to males, reason was possibly the same household related activities.

The findings from Table 4a suggested that the value of chi-square test for the male and female in role performance in management activities were insignificant. The plausible explanations could be that the activities related to the management can be performed by both of them individually without each other's help. Further all the responses were not equally likely. This proved that the association isn't required between male and female in these activities.

Role performed by tribal households in other activities: Purchase of cattle feed and other equipments (70.59% regular and 25.49% sometime), selling and purchasing of animals (76.47% regular and 17.65% sometime) and taking milk for

Table 4. Role performance of tribal households in management activities

n=51(M=51 & F=51)				
S.no	Management activities	Category	M	F
1.	Bathing of animals	Sometimes	16 (31.37)	14 (27.45)
		Never	6 (11.77)	21 (41.18)
		Regular	5 (9.80)	41 (80.40)
2.	Milking of animals	Sometimes	5 (9.80)	5 (9.80)
		Never	41 (80.40)	5 (9.80)
		Regular	10 (19.61)	14 (27.45)
3.	Control and massage of animal during milking	Sometimes	10 (19.61)	13 (25.49)
		Never	31 (60.78)	24 (47.06)
		Regular	4 (7.84)	40 (78.43)
4.	Disposal of cow dung and cleaning of drain	Sometimes	6 (11.77)	7 (13.73)
		Never	41 (80.39)	4 (7.84)
		Regular	3 (5.88)	44 (86.28)
5.	Preparation of cow dung cakes	Sometimes	6 (11.76)	4 (7.84)
		Never	42 (82.36)	3 (5.88)
		Regular	3 (5.88)	39 (76.47)
6.	Cleaning of sheds, mangers and equipments etc.	Sometimes	7 (13.73)	10 (19.61)
		Never	41 (80.39)	2 (3.92)
		Regular	5 (9.80)	42 (82.36)
7.	Cleaning of dairy utensils	Sometimes	5(9.80)	4(7.84)
		Never	41 (80.40)	5 (9.80)
		Regular	26 (50.98)	5 (9.80)
8.	Repairing of shed, equipments etc.	Sometimes	11 (21.57)	28 (54.90)
		Never	14 (27.45)	18 (35.30)
		Regular	3 (5.88)	21 (41.18)
9.	Weather protection to the animals	Sometimes	22 (43.14)	12 (23.53)
		Never	26 (50.98)	18 (35.29)

Figures in parenthesis indicates percentage in their respective category.

Table 4a. Chi-square value for role performance of tribal households in management activities

Management activities	Chi-square value
Bathing of animals	14.24
Milking of animals	39.18
Control and massage of animal during milking	20.12
Disposal of cow dung and cleaning of drain	35.76
Preparation of cow dung cakes	59.65
Cleaning of sheds, mangers and equipments etc.	42.82
Cleaning of dairy utensils	36.35
Repairing of shed, equipments etc.	11.77
Weather protection to the animals	14.79

** Significant at 1% level of probability.

Table 5. Role performance of Kota households in other activities

n=51(M,51 ; F,51)

Other activities	Category	M	F
Purchase of cattle feed and other equipment's	Regular	36(70.59)	10(19.61)
	Sometimes	13(25.49)	0(0.0)
	Never	2(3.92)	41(80.39)
Selling and purchasing of animals	Regular	39(76.47)	0(0.0)
	Sometimes	9(17.65)	12(23.53)
	Never	3(5.88)	39(76.47)
Taking milk for sale	Regular	39(76.47)	5(9.80)
	Sometimes	5(9.80)	6(11.77)
	Never	7(13.73)	40(78.43)
Preparation of milk products (Ghee / Curd etc.)	Regular	2(3.92)	35(68.63)
	Sometimes	8(15.69)	10(19.61)
	Never	41(80.39)	6(11.76)
Keeping account of milk and milk products sold	Regular	7(13.73)	24(47.06)
	Sometimes	20(39.21)	23(45.10)
	Never	24(47.06)	4(7.84)

Figures in parenthesis indicate percentage in their respective category.

Table 5a. Chi-square value for role performance of tribal households in other activities

Other activities	Chi-square value
Purchase of cattle feed and other equipment's	40.31
Selling and purchasing of animals	26.72
Taking milk for sale	17.29
Preparation of milk products (Ghee / Curd etc.)	7.21**
Keeping account of milk and milk products sold	16.31

sale (76.47% regular and 9.80% sometimes) was mostly done by males (Table 5). Whereas, preparation of milk products like ghee, chhana, curd etc. (68.63% regular and 19.61% sometime) and keeping account of milk and milk products sold (47.06% regular and 45.10% sometime) was done mostly by females. In this area, males were dominant as compare to the female because most of the outside activity falls under this category.

The value of chi-square test (Table 5a) for the third and fourth activity of role performance in other activities were highly significant, whereas the activities no 1, 2, 3 and 5 were insignificant. The possible reasons might be that male members mostly did the activities like purchase of cattle feed and other equipments, selling and purchasing of animals, taking animals for sale and keeping account of mik and milk products. Whereas, the fourth activity namely preparation of milk products were done mostly by females traditionally.

Majority of the activities like attending the animal at the time of parturition, post parturient care, cutting of grass and chopping of straw, grazing, feeding and watering of animals, care of new born calf and sick animals, milking of animals, control and massage of animal during milking, preparation and disposal of cow dung cakes, cleaning of drain, dairy utensils, sheds, mangers, equipments etc., weather protection to the animals and preparation of milk products were regular and sometimes activities of females. Most of the outside activities were performed by males, viz. taking animals to the hospital and artificial insemination, PD etc., repairing of shed, equipments etc., purchase of cattle feed and other equipments, selling and purchasing of animals, taking milk for sale and keeping account of products sold. It is clear in overall role performance that most of the activities namely breeding, feeding, health care and management were regular activities for females whereas only other activities were a regular activity for males.

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