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Role of farm women in animal husbandry activities in Shekhawati region of Rajasthan

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Abstract

A field survey was conducted in 2020 in Jhunjhunu, Sikar and Churu district of Rajasthan to study the role of farm women in animal husbandry activities in Shekhawati region of Rajasthan. A random sample of 300 farm women was selected from fifteen villages from three districts and role of farm women were assessed. It was revealed that the majority of farm women (57.68%) were middle age (25-50 year old) and 96.00 percent of them were married. The educational level of two-third respondent (66%) was secondary or more than secondary and medium size (5-8 members) family were prevalent in the study area. The majority (55.00%) of the farm women had Rs.1-2 lakh annual family income and 45.00 percent respondents had medium land holding with medium herd size. Most of the animal feeding activities like green fodder cutting and chaffing, feeding, concentrate preparation, mineral mixture feeding and watering of animals were performed by the farm women in well proportion. Regarding animal breeding activities, 92.67 percent work of pregnant animals was done by farm women. It was observed that identification & care of sick animals (57.00%) and cleaning & bathing of animals (69.67%) activities were done by farm women. Activities of animal shed cleaning, milking utensils cleaning, disposed of dung and making of animal dung cake were performed cent percent by the respondents. The activities of milk processing (100 %) and sale of animal products at home (89.33%) were done by the farm women. Farm women spent average 5 hours & 02 minute time daily on animal husbandry activities. It can be concluded from the study that most of the animal husbandry activities were done by the farm women on a large scale, but their hard work was not recognized. So, the development activities of livestock sector should be focused on farm women for their encouragement and real execution of the schemes.

Key words: Farm women, animal husbandry activities, role, Shekhawati region

Introduction

Dairy husbandry is an important second enterprise in India after crop production. It provides livelihood and nutritional security. India has about 192.52 (35.93%) and 109.85 (20.50%) million cattle and buffalo population, respectively. According to Belurkar *et al*. 2003, women play a crucial role in livestock management activities. The contribution of women in animal husbandry activities is underestimated and overlooked (Rathod *et al*., 2011). Women are performed multiple activities like dairy husbandry, crop production, vegetable & fruit production etc. along with their permanent household works. Appropriate acknowledgements are not given to them, although they are working as invisible workers in animal husbandry field since long (Ferreria *et al.,* 2020). Ghos and Ghos (2014) reported in their study that 20 million farm women are involved in animal husbandry activities as against 1.5 million men in India.

Women are hard and regular worker (15.5 hrs/ day). They performed 60 to 80 percent of feeding and milking of animals and on an average, a rural woman spent 5.5 hrs on caring for livestock, but only 50 minutes on caring for her own children (FAO, 2012). Jadav *et*

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al., 2014 mentioned in their research, that the contributions of farm women to animal husbandry sector are generally neglected by policy planners and studies related to their role in livestock farming are quite less. Shekhawati region of Rajasthan that comprises Jhunjhunu, Sikar and Churu district is advance in all major sector viz. education, business, civil services, defence services sector etc. The land holding of this region is also less (except Churu district) as compared to western Rajasthan. This region lies in arid and semi-arid region. About two third area of this region is un-irrigated and the crop production depends on rain. Hence, the role of livestock is important for sustainability and livelihood of farming community. Shekhawati region has 7.83, 8.13, 7.72 and 9.39 percent cattle, buffalo, sheep and goat population of the state, respectively (Livestock Census-2019). So, the livestock is the second most important enterprise for the region. Therefore, present investigation was undertaken to study the role of farm women in animal husbandry activities in Shekhawati region of Rajasthan.

Materials and Methods

In order to achieve the objectives of the study, a field survey was carried in 2020 in three districts (Jhunjhunu, Sikar and Churu) of Shekhawati region in Rajasthan to collect the information on role of farm women in animal husbandry activities. Five village from each district and 20 farm women engaged in animal husbandry activities from each village were selected randomly. Thus, the entire sample consists of 300 respondents from selected 15 villages in three districts of the state. The data were collected personally with the help of structured pre tested interview schedule. The data on age, marital status, education, family size, annual income, land holding and herd size were collected from respondents. Information on role of farm women in different activities of animal husbandry like animal feeding, breeding management, health care management, general management and milk processing & marketing were also collected. Data were tabulated and analyzed as per standard statistical tools to draw meaningful inferences.

Results and Discussion

It was revealed from the table 1 that majority (57.67 %) of farm women were middle-aged followed by old age (27%) and young age (13.67%) group. The

Table 1: Socio economic profile for farm women (n-300)

Variable		Jhunjhunu	Sikar	Churu	Total	Average
		Percentage (No.)				
Age	Young (< 25 yr)	11(11)	16 (16)	14(14)	41(41)	13.67(13.67)
	Middle (25-50 yr)	62(62)	59 (59)	52(52)	173 (173)	57.67(57.67)
	Old (50-70 yr)	27(27)	25 (25)	29(29)	81(81)	27.00(27)
Marital status	Married	93(93)	95 (95)	100(100)	288 (288)	96.00(96)
	Unmarried	7 (7)	5 (5)	00(00)	12(12)	4.00(4)
Educational level	Illiterate	7 (7)	8 (8)	36(36)	51(51)	17.00(17)
	Primary	10 (10)	14 (14)	27(27)	51(51)	17.00(17)
	Secondary/ Higher secondary	42(42)	54 (54)	28(28)	124(124)	41.33(41.33)
	Graduation/ post graduation	41(41)	24 (24)	9(9)	74(74)	24.67(24.67)
Family size	Small (up to 4 no)	32(32)	28 (28)	15(15)	75(75)	25.00(25)
	Medium (5-8 no)	61(61)	64 (64)	58(58)	183(183)	61.00(61)
	Large (>8 no)	07(07)	08 (08)	27(27)	42(42)	14.00(14)
Total annual income	Rs 1-2 lakh	54(54)	48 (48)	63(63)	165(165)	55.00(55)
	Rs 2-5 lakh	33(33)	39 (39)	31(31)	103(103)	34.33(34.33)
	Rs 5-8 lakh	10(10)	9 (9)	05(05)	24(24)	8.00(8)
	Rs >8 lakh	3 (3)	4 (4)	01(01)	08(08)	2.67(2.67)
Land holding	Landless farmer	10(10)	08 (08)	5(05)	23(23)	7.67(7.67)
	Marginal farmer (<1.00 ha)	19(19)	22 (22)	13(13)	54 (54)	18.00(18)
	Small farmer(1-2 ha)	53(53)	48 (48)	33(33)	134 (134)	44.67(44.67)
	Medium farmer (2-10 ha.)	18(18)	22 (22)	33(33)	73 (73)	24.33(24.33)
	Large farmer (>10 ha.)	0(0)	0 (0)	16(16)	16 (16)	5.33(5.33)
Livestock herd size	Small (up to 5 no)	27(27)	21(21)	17(17)	65 (65)	21.67(21.67)
	Medium (up to 10 no)	55(55)	57(57)	48(48)	160(160)	53.33(53.33)
	Large (>10 no)	18(18)	22(22)	35(35)	75(75)	25.00(25)

data indicated that the farm women of 25-50 year were more actively engaged in animal husbandry activities in the studied area. Regarding marital status, 96.00 percent farm women were married. The observations recorded in the present study were similar as reported by Kumar *et al*. (2021). The education level of the farm women was good and 17.00, 41.33 and 24.67 percent respondents had primary, secondary/ senior secondary and graduation/ post graduation education, respectively while only 17.00 percent farm women were illiterate. The present findings were encouraging than Kumar *et al*. (2021), who reported 70.00 percent illiterates in their studied area. It was observed that majority (61.00%) of the respondent lies in medium size family followed by small (25.00%) and large size (14.00%) family.

More than half (55.00%) of the respondents earned Rs. 1-2 lakh in a year by all components of farming, while 34.33 and 8.00 percent farm women earned Rs. 2-5 and 5- 8 lakhs per year, respectively. Only 2.67 percent of the respondents earned Rs. 8.0 or more than 8.0 lakhs per year as family income. Majority of the farm women family had small (44.67%), medium (24.33%) and marginal land holding size (18.00%) followed by landless (7.67%) and large land holding size (5.33%). As per categorization of the table, it can be concluded that the respondents of Churu district had more land holding than Sikar and Jhunjhunu i.e. more number of respondent lies in large (16.00 %) and medium land holding (33.00 %) than Sikar and Jhunjhunu district. Medium size livestock herd (53.33%) was prevalent in surveyed area followed by large (25.00%) and small (21.67%) size livestock herd.

The data presented in table 2 indicated that the daily activities of animal feeling like feeding of animals (88. 67%), concentrate feeding (90.67%), green fodder cutting from field & chaffing of green fodder(73.33%), mixing of green fodder (86.67%), watering of animals (91.00%), mineral mixture feeding (55%) and feeding of newly born calf (89.67%) were more performed by farm women. These findings are in accordance with the earlier results of Kathiriya *et al*. (2013) but encouraging than reported by Kaur (2015) and Kumar *et al*. (2021). The role of farm women in grazing of animals (18.33%) and feed & storage (47.33%) were less as compared to men. The involvement of farm women in grazing of animals were less as compared to Chayal *et al*. (2009), Kathiriya *et al*. (2013) and Kumar *et al*. (2021) who reported 69.33, 82.50 and 40.00 percent farm women engaged in grazing activity in their studied area, respectively. This may be due to availability of more grazing land in their surveyed area.

Data in table 3 showed that role of farm women in animal breeding activities were less. Only care of pregnant females (92.67%) and heat detection (55.33%) activities were performed more by farm women, whereas, involvement of farm women in the other activities like castration of male calf (0%), A.I. / natural service (6.0%), calling of veterinarian (19.33%) and parturition (36.00%) were less due to social environment. These results were supported by Lahoti *et al*. (2012), Kaur (2015) and Kumar *et al*. (2021). However the present observation was contrary to the findings of Singh (2003) in Haryana and Rathod *et al*. (2011) in Karnataka, who reported 90.83, 78.33 and 69.16 percent involvement of farm women in pregnancy diagnosis, artificial insemination and natural service activities of animals, respectively. The higher involvement of farm women may be due to a healthy social environment and absence of man during day

Table 2: Participation of farm women in animal feeding (n-300)

Farm activities	Jhunjhunu	Sikar	Churu	Total	Average
	Percentage (No.)				
Feeding of animals	85(85)	89(89)	92(92)	266(266)	88.67(88.67)
Preparation and soaking of concentrate	86(86)	89(89)	97(97)	272(272)	90.67(90.67)
Green fodder cutting and transportation to shed	67(67)	72(72)	81(81)	220(220)	73.33(73.33)
Chaffing of green fodder	64(64)	72(72)	84(84)	220(220)	73.33(73.33)
Mixing of green fodder in dry fodder	92(92)	90(90)	78(78)	260(260)	86.67(86.67)
Watering of animals	86(86)	92(92)	95(95)	273(273)	91.00(91)
Offering of mineral mixture	67(67)	62(62)	36(36)	165(165)	55.00(55)
Colostrum feeding of newly born calf	90(90)	85(85)	94(94)	269(269)	89.67(89.67)
Grazing of animals	4 (4)	6(6)	45(45)	55(55)	18.33(18.33)
Storage of feed and fodder	47(47)	40(40)	55(55)	142(142)	47.33(47.33)

Table 3: Participation of farm women in animal breeding activities (n-300)

Farm activities	Jhunjhunu	Sikar	Churu	Total	Average
	Percentage (No.)				
Care of pregnant females	92(92)	90(90)	96(96)	278(278)	92.67(92.67)
Care of animals during parturition	37(37)	42(42)	29(29)	108(108)	36.00(36)
Heat detection in females	64(64)	53(53)	49(49)	166(166)	55.33(55.33)
Taking animals for A. I./natural service at hospital	7 (7)	9(9)	2(2)	18(18)	6.00(6)
Taking male calf for castration at hospital	0(0)	0(0)	0(0)	0(0)	0.00(0)
Taking pregnant animals for P D at hospital	5(5)	4(4)	2(2)	11(11)	3.67(3.67)
Calling veterinary doctor for breeding problems	24(24)	21(21)	13(13)	58(58)	19.33(19.33)

Table 4: Participation of farm women in general management (n-300)

Farm activities	Jhunjhunu	Sikar	Churu	Total	Average
	Percentage (No.)				
Cleaning of animal shed	100(100)	100(100)	100(100)	300(300)	100(100)
Washing & grooming of animals	85(85)	81(81)	72(72)	238(238)	79.33(79.33)
Care of newly born calf	91(91)	88(88)	94(94)	273(273)	91.00(91)
Care of advance pregnant females	94(94)	90(90)	96(96)	280(280)	93.33(93.33)
Milking of animals	73(73)	82(82)	87(87)	242(242)	80.67(80.67)
Cleaning of milking utensils	100(100)	100(100)	100(100)	300(300)	100.00(100)
Disposal of dung/waste material	100(100)	100(100)	100(100)	300(300)	100.00(100)
Cow dung cakes making	100(100)	100(100)	100(100)	300(300)	100.00(100)
Compost making	17(17)	22(22)	14(14)	53(53)	17.67(17.67)
Isolation of sick animals	42(42)	47(47)	55(55)	144(144)	48.00(48)
Maintenance of different records	22(22)	19(19)	33(33)	74(74)	24.67(24.67)

time in the studied area.

Perusal of data in the table 4 revealed that the activities of general management like- cleaning of animals shed & milking utensils, disposal of dung/ waste material and making of dung cakes were performed cent percent by the farm women. The involvement of women in the activities like care of newly born calf (91.00%), washing & grooming of animals (79.33%), care of advance pregnant females (93.33%) and milking of animals (80.67%) was also at higher level. Whereas, the participation of farm women in isolation of sick animals (48.00%), maintenance of various farm records (19.33%) and compost making (17.67%) was less. The present findings are well supported by the earlier result of Kumar *et al*. (2021).

Data presented in the table 5 indicated that majority of the farm women were involved in disposal of infected litter (89.33%), cleaning of animals (69.67%) and identification & care of sick animals (57.00%) in healthcare management activities. Whereas, participation of farm women in disposal of carcass (0%), purchase of veterinary medicines (12.67%), treatment of sick animals (14.33%) and vaccination & deworming (25.00%) were very low.

It is apparent from the collected data that the activities of milk processing (100.00%) and sale of milk & ghee at home (89.33%) were performed by the farm women on higher scale, while for the other activities like purchase of animals equipments (11.67%), sale & purchase of animals (12.00%), fodder & concentrate purchase (14.67%), financial record maintenance (16.67%), bank loan processing (18.33) and cooperative dairy (26.00%) were the least involvement of farm women. Similar observations were also reported by Lahoti *et al*. (2012) and Kumar *et al*. (2021) in their study (Table 6).

The data of table 7 showed that more time was spent on cutting & chaffing of green fodder (82 m), feeding of animals (50 m) and cleaning of animal shed & disposal of dung (40) activities by farm women on daily basis. Total time spent daily on different activities was 5 hours and 02 minutes. So, it can be concluded

Table 5: Participation of farm women in healthcare management n-300

Farm activities	Jhunjhunu	Sikar	Churu	Total	Average
			Percentage (No.)		
Identification and care of sick animals	52(52)	56(56)	63(63)	171(171)	57.00(57)
Taking animals for treatment to hospital	10(10)	12(12)	21(21)	43(43)	14.33(14.33)
Vaccination and deworming	26(26)	31(31)	18(18)	75(75)	25.00(25)
Disposal of carcasses	0(0)	0(0)	0(0)	0(0)	0.00 (0)
Grooming, cleaning and bathing of animals	70(70)	75(75)	64(64)	209(209)	69.67(69.67)
Disposal of infected litter	82(82)	90(90)	96(96)	268(268)	89.33(89.33)
Purchase of veterinary medicines	16(16)	15(15)	07(07)	38(38)	12.67(12.67)

Table 6: Participation of farm women in processing and marketing of milk n-300

Farm activities	Jhunjhunu	Sikar	Churu	Total	Average
			Percentage (No.)		
Processing of milk	100(100)	100(100)	100(100)	300(300)	100(100)
Sale of milk & ghee at home	94(94)	83(83)	91(91)	268(268)	89.33(89.33)
Sale and purchase of animals	15(15)	13(13)	08(08)	36(36)	12(12)
Purchase of fodder and concentrate	21(21)	17(17)	06(06)	44(44)	14.67(14.67)
Purchase of animals equipments	18(18)	12(12)	05(05)	35(35)	11.67(11.67)
Involvement in banking process	24(24)	19(19)	12(12)	55(55)	18.33(18.33)
Involvement in dairy cooperatives	27(27)	32(32)	19(19)	78(78)	26.00(26)
Financial record maintenance	22(22)	18(18)	10(10)	50(50)	16.67(16.67)

Table 7: Average time spent by farm women in animal husbandry activities

S. N.	Farm activities	Time spent	
		Range (Minute)	Average (Min/day)
1.	Feeding of animals	40-60	50
2.	Cutting of green fodder & chaffing	60-110	82
3.	Grazing of animals	20-30	25
4.	Watering of animals	10-20	15
5.	Cleaning of animals shed & disposal of dung	30-50	40
6.	Compost and dung cake making	20-25	22.5
7.	Breeding activities	10-15	12.5
8.	Health care activities	10-20	15
9.	Milking & processing	20-30	25
10.	Misc. activities	10-20	15
	Total		302

that about half day of a farm women was consumed in animal husbandry activities. The total time spent on animal husbandry activities was more than reported by Christy & Thirunavukkarasu (2002) and Kumar *et al*.(2021), who reported 4 H 9 M and 4 H 47 M average daily spent on the animal husbandry activities, respectively. It may be due to small herd in their studied area.

Conclusion

It can be concluded from the study that major activities which are essential for animal husbandry enterprise were performed by farm women. Participation of farm women in other animal husbandry activities which would be done occasionally and out of home was less. So, to improve the adoption of

recommended animal husbandry practices, extension and development activities should be focused on farm women. Participation of farm women in trainings, exhibition, animal fair, demonstration and educational tour organised by Animal Husbandry department, Krishi Vigyan Kendra, ATMA, rural development departments should be increased. The State Animal Husbandry department should start recognition of progressive farm women livestock owner (*Pragatishil Krishak Mahila Pashupalak*) every year and recognize at state, district and block level to motivate and honor their laborious work.

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