

## Case Study

# Women's participation and their constraints in livestock management activities: A case study of district Bahawalpur in Punjab, Pakistan

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## Abstract

Livestock is the most important sector for the economy of Punjab which is performing a vital role in rural livelihoods as a key source of employment for women at the household level. Rural women play a significant role in livestock management activities and this sector is also considered the black gold of Pakistan. The current study was carried out in Bahawalpur, a district of South Punjab, Pakistan to investigate women's participation and constraints in different livestock management. The primary data were collected by using a multistage random sampling technique from the rural women (n=200) through a well-structured questionnaire. Simple descriptive statistics were used to analyze the data. Regarding socioeconomic characteristics majority of the female respondents were middle-aged (44%), married (77%), illiterate (80%) and had almost ~15 years of experience in livestock management. Results revealed that women were owned almost 53% more animals as compared to men, and had possessed animals were mostly cow, calf, goat and sheep. Women's participation in livestock management was found significantly high by 86% (at  $p \leq 0.001$ ) than men, where women had shown higher time allocation for various livestock management activities. It was noticed that major constraints faced by women in the Bahawalpur region for livestock management were the high cost of veterinary services for animal treatment, poor access to training and loan facilities. This study will help in the execution of future policies for rural development in the provision of credit and livestock training facilities for women to encourage their participation in livestock production.

## Introduction

Livestock is the backbone of the agriculture sector and significantly contributes to the rural economy of developing countries [1]. In Pakistan, livestock rearing is extensively popular and a widespread activity among rural areas to meet their food and other necessities [2,3]. It is also considered black gold, where it is contributing 60.6% to the overall agricultural value and 11.7% to the GDP of Pakistan [4]. Pakistan is blessed with both large and small ruminants (i.e., buffalo, cow, goat and sheep) and this sector generates employment opportunities that provide a livelihood to a large number of rural households from the sale of dairy or by-products and fertilizers for crops [3]. Punjab is the most prominent province in Pakistan in terms of agriculture and livestock [5].

Livestock management is a gender-based activity that requires substantial amounts of time, labor and farming practices in which both men and women of the household members are involved [6]. In the rural areas, male members are mainly involved in agricultural practices, while females in addition to their house responsibilities actively participate in livestock activities [2]. In Punjab, rural women are performing phenomenal work in the livestock sector and actively play a significant contribution to the sustainability of livestock [4,5,7], because most of the livestock activities are incomplete without the assistance of women [8]. Women are carrying out various livestock farming practices such as caring and grazing of animals, cleaning of animals and their sheds, taking care of sick animals, fodder collection, feeding, water serving, milking, manure collection, and preparation of dung cakes [9-11]. Moreover, women also reduce the farm input cost by providing



organic fertilizers in the form of farmyard manure to the fields by managing livestock [3,4]. Additionally, livestock provides employment opportunities to women and makes them worthy by contributing in cash from the sale of dairy products such as ghee, yogurt, and butter in their households [9,12]. It is vibrant to know that women's participation in livestock management is considered a traditional responsibility that served as an asset for women and can be used as a tool for poverty reduction [13]. Furthermore, their participation is closely linked with economic empowerment by increasing decision-making power, and the social well-being of women folk [14]. No doubt, the participation of rural women is higher in maintaining livestock activities all over the world and they devote more time (6 hours per day) than men (3 hours per day), but their work has not been recognized and documented on a national and international level [4,15]. Former studies also confirmed the livestock management at the household level with the active involvement of women observed in different regions of Pakistan viz., Punjab [3,7,8] Baluchistan [9,16] Sindh [17] and Khyber Pakhtunkhwa [2,3]. Previous studies also discussed the women's livestock possession as well as several constraints faced by women in livestock management such as culture and tradition, poverty, lack of inputs, credit, land and shelter for livestock and lack of knowledge [3,11,18].

Seeing the involvement of rural women and their participation in livestock management, the present study was aimed to explore the extent of women's contribution to various livestock activities and to observe the constraints being tackled by the rural women for their involvement in livestock management. Also, investigate the factors affecting their participation and involvement in agricultural activities for livestock development and women empowerment in the Bahawalpur district of Punjab.

## Research methodology

**Data collection:** The area of Bahawalpur districts was selected due to the high involvement of females in livestock rearing. Women Field Facilitators (WFFs) were selected rural women randomly (n=200 respondents) who had actively been involved in livestock management activities at the household level in different areas of the Bahawalpur region. The primary data was collected through a survey technique by using a well-structured questionnaire as followed by Naz, et al. [3] (**Supplementary file**).

### The questionnaire was designed to know:

- Socioeconomic characteristics of women involved in livestock management
- Type of livestock reared in the studied area
- Type of livestock possessed by women
- Women participation (time allocation) in livestock management activities
- Major constraints faced by women in livestock management

Where livestock management activities by rural women in the studied region (Bahawalpur) included eight distinct types of activities which were selected due to their incidence on daily basis viz.,

i) Fodder cutting: Forage crops, plants or grasses cutting by using hand tools (e.g., sickle, spade); ii) Feeding: animals providing with feed (e.g., green chopped or dry fodder or a mixture of both); iii) Water serving: providing water to the animals either at their living place or leading them to a nearby water source (e.g., canal); iv) Shed cleaning: accumulating the excrement of animals to make their living place clean and the collected excreta were further used either as farmyard manure (e.g., organic fertilizer or dung-cakes to use as fuel); v) Young animal care: looking after of a young animal via feeding, health care of the calves; vi) Milking: extracting of milk manually from the dairy animals such as buffalo, cow, goats and sheep; vii) Preparation of milk products: making of milk products (i.e., yogurt, butter, butter oil, cheese) and viii) Marketing of dairy products: selling process of milk and milk products viz., yogurt, butter, oil, ghee, cheese, etc., to generate income.

To determine the obstacles/constraints faced by women participating in livestock management activities. The following points were asked from rural women (n=200) i.e., need financial support; need training; costly feed; lack of interest; costly veterinary services; other workload and decision making in animals' marketing. The extent of agreement about these obstacles or problems was estimated according to their positive and negative response (0=no; 1=yes).

## Data analysis

The data were analyzed using descriptive statistics by using Statistical Package for Social Science (SPSS) version 25 to find out the frequencies and percentages, also the mean comparison of the participation extent by men and women was estimated by an independent two-sample t-test assuming unequal variances for comparing the mean values.

## Results and discussion

### Women socio-economic characteristic

Rural women in Pakistan perform a significant role in agricultural growth and eventually their socioeconomic background has a vast impact on their participation in livestock management. The socioeconomic conditions of women belong to the Bahawalpur district are mentioned in Table 1. The results obtained from the study showed that the maximum number of women respondents (44%) were found middle-aged between the age range of 31-40 years, and this outcome is also in line with that of Amin, et al. [19] and Zahoor, et al. [7], who reported that majority of respondents (35%) related to livestock rearing activities were of middle age category. While 34% women were of above 40 years and 22% of females were between the age of 20-30 years. Similarly, Ali, [20] reported that young women had a relatively low share (21%) in agricultural and livestock activities. The marital status of females working with livestock also considered in this study, indicated that 97% of females are



**Table 1:** Socioeconomic characteristics of the respondents (n=200) in district Bahawalpur, Punjab.

Factors	Categories	Frequency (n)	Percentage (%)
Age	20-30	44	22
	31-40	88	44
	Above 40	68	34
Marital status	Married	194	97
	Unmarried	4	2
	Divorced	2	1
Literacy status	Illiterate	160	80
	Literate	40	20
	Primary	14	7
	Middle	11	5.5
	Matric	12	6
Livestock rearing experience (years)	1-5	26	14
	6-10	64	24
	11-15	48	32
	above 15	62	30

married, while the least numbers of women are single (2%) and divorced (1%). The current finding is alike as reported by Kathiriya and Damasia [12] and Zahoor, et al. [7] reported that the majority of women (more than 75%) were married related to livestock management.

The literacy rate amongst the selected rural women (n=200) has been recorded as 80% of the female respondents uneducated, while 20% of the female respondents are literate at different educational levels (Table 1). Kushwaha, et al. [10] and Andaleeb, et al. [2] also reported the same illiteracy rate (70-90%) of rural women. Likewise, it was reported that in South and West Asia and sub-Saharan Africa women cannot read and write [21]. The basic reason behind this low literacy rate in our rural area is that males get more importance from rural people to acquire education while rural women face restrictions to attain this opportunity [22]. The livestock rearing experience of women was also recorded, which showed the majority of women had about 11-15 years of farm experience followed by women who had experienced in livestock management more than 15 years (Table 1). Likewise, Naz, et al. [3] reported that most of the women (34%) were reasonably skilled and experienced 11-15 years of livestock management.

### Major types of livestock

The current results indicated that respondents were mostly rearing cows, ox, buffalo, bull, calf, goat and sheep. The data showed that collectively about 726 numbers of livestock have been reared at the household level in the selected area of district Bahawalpur. The majority of the respondents own large numbers of cow (36%), goat (27%) and buffalo (16%), while fewer reared calf (10%), ox (6%), sheep (5%) and bull (1%) (Table 2). Hence, goat and cow were the main type of livestock with an average of 1.64 and 1.31 numbers per household, respectively followed by calf and buffalo (0.57). These animals are mostly reared due to their easy management and low feed requirements [3]. It was estimated about 4-5 animals were reared on average per household. The study also revealed that 51% of respondents own indigenous breeds of

different livestock, while 4.9% have been reared exotic breeds. In contrast, Ashfaq, et al. [20] reported that the average productivity of exotic breeds of cattle is higher (60%) than that of indigenous breeds owned by farmers in Punjab.

### Livestock possession

Our results indicated that the majority of animals such as cow, calf, goat and sheep were possessed by women as 66%, 59%, 69%, and 65%, respectively. While men possessed ox, buffalo and bull by 73%, 61% and 56% as compared to women (Table 3). Livestock possession by women is a positive aspect that enables rural women to actively participate in livestock management activities and enhances their decision-making power within the household [24]. Our results also revealed that overall livestock animals owned by women were 655 which was 52.7% more than men who had 415 numbers livestock animals (47.3%).

### Comparative study of the extent of participation between men and women in livestock management

In the study area (Bahawalpur), the extent of rural women who have participated in the aforesaid livestock management activities was tabulated in Table 4. Which showed that both men and women were involved in livestock activities with varying degrees of time, but in some activities, women actively participated especially in making and marketing milk products. The results revealed that the participation of women in livestock management activities is significantly high by 86%

**Table 2:** Different livestock owned by respondents (n=200) in the area of district Bahawalpur, Punjab.

Sr. No.	Types of Livestock	Frequency (n)	Percentage (%)	Average livestock reared per household
1	Cow	260	36	1.31
2	Ox	40	6	0.20
3	Buffalo	114	16	0.57
4	Bull	7	1	0.04
5	Calf	74	10	0.57
6	Goat	195	27	1.64
7	sheep	36	5	0.18
Total		726	100%	4.52
Exotic breed		98	49%	
Indigenous breed		102	51%	

**Table 3:** Comparative analysis and the detailed percentage of livestock possession between men and women in the area of district Bahawalpur, Punjab.

Sr. No.	Livestock	Livestock Possessed			
		Men		Women	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1	Cow	92	34	176	66
2	Ox	30	73	11	27
3	Buffalo	67	61	43	39
4	Bull	15	56	12	44
5	Calf	72	41	102	59
6	Goat	127	31	289	69
7	sheep	12	35	22	65



(at  $p \leq 0.001$ ) as compared to men's contribution in various livestock activities in the selected areas of the Bahawalpur district. Likewise, [8] also noted that women from the district Ziarat and Loralai performed ~50% of livestock activities than men (38%). Our results are in line with the former findings of Zahoor, et al. [7]; Luqman, et al. [4]; Andaleeb, et al. [2]; Naz, et al. [3] which revealed that women had more significant participation in livestock activities as compared to men in different rural regions of Pakistan.

Table 4 also presents the average time allocation per day on different management activities by men and women. Which showed that women have been spending more hours in the management of livestock activities as compared to men. Data exhibited that average time has been taken for the different livestock activities were fodder cutting (2.28 hrs./day), water serving (2.25 hrs./day) and feeding (1.5 hrs./day) were performed by women. Of the total time for all aforesaid livestock management activities, women have spent the maximum time (10.58 hrs./day) as compared to men. Results are aligned with the previous finding of Hashmi, et al. [25]; Amin, et al. [6]; Arshad, et al. [26]; Mthi, et al. [11].

### Major constraints faced by women

In the research area, women were asked for aforesaid multiple problems (seven major constraints) which were adversely affected women's participation in livestock production than those of men. Some of these constraints are social, economic, and technical [4]. The extent of agreement about these obstacles or constraints was estimated according to their positive and negative response (0=no; 1=yes). Table 5 showed the major constraints rank order which was faced by women in livestock management in the area of district Bahawalpur.

Among these constraints, costly veterinary services in the study area were the major constraint (ranked I) as 87% of respondents agreed. The second and third major constraints reported by women respondents were the need for training and credit. Similarly, Naz, et al. [3] were also reported that the costly veterinary services and technical training of

**Table 5:** Major constraints faced by women (n=200) in livestock management in district Bahawalpur, Punjab.

Sr. No.	Constrains	Frequency (n)	Percentage (%)	Rank order
1	Need financial support	159	80	III
2	Need training	170	85	II
3	Costly feed	148	74	IV
4	Lack of interest	60	30	VII
5	Costly veterinary services	174	87	I
6	Other workload	130	65	V
7	Decision making in animals' marketing	100	50	VI

female farmers hindered women's participation in livestock management because most of the rural women are poor and they often don't have access to credit. Costly feed, the workload of other household activities (such as child care, cooking, house cleaning, dishwashing, etc.) and decision-making in animal marketing were ranked afterward in Bahawalpur.

### Conclusion

The study concluded that women are the chief contributor in livestock management and reared major livestock (viz. cow, calf, goat, and sheep) in selected regions of the Bahawalpur. Women's participation in livestock management was found significantly high than men and they were spent more time (hrs./day) on various livestock management activities. High-cost veterinary services for animal treatment, poor access to training and loan facilities were the major constraints faced by women in livestock management.

The study recommends that livestock programs should be providing technical training on livestock management to strengthen/encourage women's participation in the livestock sector that will help to uplift livelihood and empower them in district Bahawalpur.

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**Table 4:** Comparative analysis of the extent of participation and average time allocation (hours/day) in various livestock management activities between men and women (n=200) in the area of district Bahawalpur, Punjab.

Sr. No.	Livestock activities	Extent of participation				Average time allocation (hours/Day)	
		Frequency (n)		Percentage (%)		Men	Women
		Men	Women	Men	Women		
1	Fodder cutting	70	146***	35	73***	1.55	2.28***
2	Feeding	36	175***	18	88***	1.06	1.50***
3	Water serving	27	178***	14	89***	0.72	2.25***
4	Shed cleaning	14	190***	7	95***	1.01	1.31 <sup>ns</sup>
5	Young animal care	45	154***	7	77***	0.86	0.94 <sup>ns</sup>
6	Milking	26	173***	10	87***	0.61	0.68 <sup>ns</sup>
7	Making of milk products	6	117***	3	58***	0.53	0.89***
8	Marketing of milk products	13	63***	7	32***	0.91	0.73 <sup>ns</sup>

Note: \*\*\* = Significant at  $p \leq 0.001$ ; ns = non-significant mean comparison t-test assuming unequal variances.



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