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Women participation in livestock activities in Nangarhar province

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Abstract
This study was carried out aiming to investigate women's participation and time spending in different livestock activities. Totally 180 women were randomly selected and interviewed based on a pre-tested questionnaire through face to face interview. Results depicted that most of the respondents were illiterate (82.7%) with mean average age of 37 years. The results also revealed that women participated mostly in pregnant animal care (72.2%), cleaning house of animals (66.7%), feeding of animals (66.1%), making dung cakes (58.9%), watering of animals (57.8%), milking of animals (55%), processing the products of animals (50%) and disposing dungs (51.7%). Women were not busy at all with marketing of animals and their products (61%), breeding (95%), vaccination (95%), treatment (86.1%), health care (51.6%) and processing the products (50%) of animals. Cattle, Buffalo, and goats were reared mostly based on intensive rearing system. On the contrary, sheep and poultry were reared mostly in semi-intensive and extensive rearing systems, respectively. They have spent about 7 hours and 9 minutes/day in different livestock activities. It can be concluded that most women were illiterate and were involved mostly in livestock management activities compared to animal treatment and prevention of diseases.

Keywords: women participation, livestock activities, rearing systems, spending time

1. Introduction
Livestock production is an important part of farming system and plays a vital role in the rural economic of developing countries (Arshad, 2010) [4]. It contributes to minimize the vulnerability of poor people living in distant rustic areas (Amanat *et al.*, 2015) [1]. As Afghanistan is an agrarian country, about 76% of the population living in rustic areas. Out of them 78% are employed in agriculture. Nearly 55% of the Afghan households are engaged in farming, and 68 % have some type of livestock (MAIL and FAO, 2015) [13]. Livestock as a part of agriculture sector, plays a precious role in the economics of Afghanistan. Based on Afghanistan living conditions survey (2013-2014), different kind of livestock are reared in Afghanistan such as cattle, sheep, goats, yolk, donkeys, chickens, and poultry. However, the population of aforementioned animals is fluctuating, sheep, goats, and cattle touched the peak of livestock population compared to other livestock (CSO, 2016) [5]. As an average on national level each household have 1-5 chicken, 1-2 dairy cows, 1-6 sheep, 1-6 goats, and some households also own ducks, horses, and donkeys (Ganesh, 2017) [7]. For many rural Afghans, livestock represents a living asset and provide an additional income from the scale of animals and their products (Fitzherbert, 2006) [6].
For the development and support of livestock sector both men and women perform and spend their abilities in various livestock activities. It is widely accepted that most of livestock activities are performed by women compared to men (Javed *et al.*, 2006) [8]. They rear animals for different purposes like income generation, food security, draught purpose, fuel and manure, traditional life style and paying school fee (Nosheen *et al.*, 2011) [16]. Women are involved not only in household activities as like cleaning of home, cooking, care of children, but also carry out different kind of livestock activities such as watering and feeding of animals, milking, animal shed cleaning, making of dung cakes, taking care of sick animals, calves rearing, production of different dairy products, and treatment of animals (Andaleeb *et al.*, 2017; Khan *et al.*, 2012; Manzoor *et al.*, 2018; Naz *et al.*, 2018) [2, 9, 12, 15]. In general, women are mostly involved in indoor livestock activities and rear small animals. But, Men perform outdoor livestock activities and participate mostly in the rearing of larger animals and their butchering (Ganesh, 2017 and Naz *et al.* 2018) [7, 15]. Women spent about 4.25-6 hours/day in different livestock activities (Naz *et al.*, 2018; Luqman *et al.*, 2014) [15, 11]. It is worth mentioning that women face different kind of constraints as like culture and tradition, lack of credit, land and shelter for livestock, poverty (Tavva *et al.*, 2013) [19], and lack of knowledge during livestock management activities (*Naz et al.*, 2018) [15].
Information concerning women participation in livestock activities in Afghanistan particularly in Nangarhar province is scarce. On the other hand, nowadays numerous livestock projects are designed for implementation by policy makers and donor agencies, but the major part of society and human power are not considered closely, whereas they contribute to various agriculture, livestock and household activities. Therefore, this study was coined for conducting and filling the gapes through investigating the participation and contribution of women in various livestock activities and how much time they spend from their daily time interval.

2. Materials and Methods
Nangarhar province is located in the eastern region of Afghanistan with the estimated population of 1,436,000 and 22 districts (Kimanzi, 2015) [10]. Kama district is famous for agriculture particularly vegetables cultivation for market. Moreover, there is a big market of animals which is conducted once a week. The district is surrounded by Goshta, Behsud and Kuz-Kunar districts of Nangarhar province. The present study was conducted in three villages namely Deh Ghazi, Akhund Kali Shihan, and Warsa-e-Faqir of Kama district with 10240, 4096, 1707 population, respectively (Kimanzi, 2015) [10]. Totally 180 respondents (60 from each

village) were selected randomly who have asked based on well-structured and pre-tested questionnaire. The questionnaire encompassed the social information of respondents, livestock (Species) which they have kept, and livestock rearing systems. Women participation in various livestock activities (Care of pregnant animals, care of newborns or young animals, cleaning of animals' shed, feeding the animals, watering the animals, making dung cakes, disposing dungs, taking health care of animals, vaccination of animals, breeding of animals, milking, processing of animal's products, marketing of animals and their products, and collection of eggs) were measured by using mostly, occasionally and not at all scales. The obtained data were analyzed by Statistical Package for Social Science (SPSS) using descriptive statistics to find out the percentage, frequency, minimum and maximum point and standard deviation.

3. Results

The results obtained from the study shows that illiterate people touched the peak (87.2%), baccalaureate in the middle (11.7%), and bachelor in low value (1.1%) as showed in figure 1. Among the respondents, majority (87.8%) of them were married, followed by widow (6.7%) and single (5.6%) women.

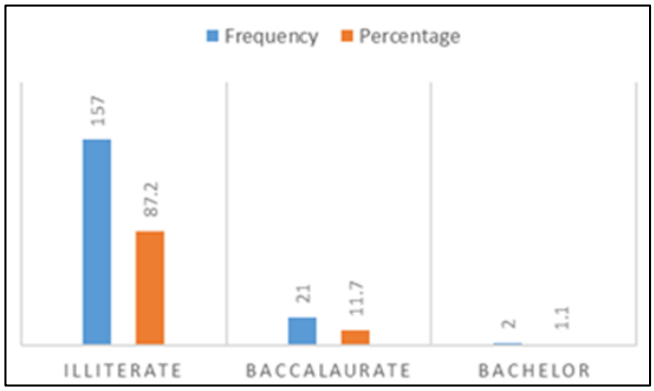

Fig 1: Shows education level of respondents.

The age mean average of respondents were 37 years. The results of study revealed that there were 11 individuals (5 males + 6 females) per household in Kama district. They were rearing 7 animals and 13 poultry per household. The study also indicated that they were mostly rearing cattle, sheep, buffalos, goats, horses and donkeys, respectively as shown in Table 1. Moreover, the current study proved that women spent 7 hours and 9 minutes from their 24 hours in different livestock activities in Kama district of Nangarhar province.

Table 1: Presents the mean of household members and animals they rear per household.

No		Mean	Minimum point	Maximum point	Std. Deviation
1	household members	11	2	27	4.41239
2	Animals	6.7500	.00	30.00	5.91832
3	Poultry	12.911	.00	50.00	10.8438
4	Cattle	3.7389	.00	20.00	2.92430
5	Buffalo	0.7056	.00	10.00	1.72946
6	Sheep	1.3833	.00	10.00	2.12533
7	Goat	0.6611	.00	8.00	1.35846
8	Horse	0.1056	.00	3.00	0.42933
9	Donkey	0.0722	.00	7.00	0.58882

They were rearing animals in three different systems which encompass intensive, semi-intensive and extensive rearing systems. The data presented in table 2 reveals that cattle (70%), Buffalos (65%) and goats (48.9%) were reared mostly based on intensive rearing system. Sheep and poultry were reared mostly in semi-intensive and extensive rearing systems, respectively. The respondents did not show inclination to extensive rearing system at all. It has also the merits to mention that poultry touched the peak in extensive rearing system.

Table 2: Shows the rearing systems of different species of animals

No	Species	Rearing system					
		Intensive		Semi intensive		Extensive	
		Frequency	%	Frequency	%	Frequency	%
1	Cattle	126	70	52	28.9	2	1.1
2	Buffalo	117	65	61	33.9	2	1.1
3	Goat	88	48.9	74	41.1	18	10
4	Sheep	58	32.2	93	51.7	29	16.1
5	Poultry	34	18.9	78	43.3	68	37.8

The data presented in table 3 shows the level of women participation in different livestock activities. Women were mostly involved in various livestock management activities than treatment and prevention of diseases. They participated mostly in pregnant animal care (72.2%), cleaning house of animals (66.7%), feeding of animals (66.1%), making dung cakes (58.9%), watering of animals (57.8%), milking of animals (55%), processing products of animals (50%) and disposing dungs of animals (51.7%). Women were not busy at all with marketing of animals and their products (61%), breeding (95%), vaccination (95%), treatment (86.1%), health care (51.6%) and processing the products (50%) of animals.

Table 3: Expresses women's participation in different livestock activities.

No	Activity	Participation category					
		Mostly		Occasionally		Not at all	
		Frequency	%	Frequency	%	Frequency	%
1	Pregnant animal care	130	72.2*	46	25.6	4	2.2
2	Animal house cleaning	120	66.7*	53	29.4	7	3.9
3	Feeding of animals	119	66.1*	25	13.9	36	20
4	Watering of animals	104	57.8*	39	21.7	37	20.5
5	Making dung cakes	106	58.9*	24	13.3	50	27.8
6	Disposal of dungs	93	51.7*	43	23.9	44	24.4
7	Animal health care	30	16.7	57	31.7	93	51.6**
8	Treatment of animals	14	7.8	11	6.1	155	86.1**
9	Vaccination of animals	1	0.6	8	4.4	171	95**
10	Animal breeding	2	1.1	7	3.9	171	95**
11	Milking of animals	99	55*	28	15.6	53	29.4
12	Process of animal products	90	50*	15	8.3	75	41.7
13	Marketing of animals and their products	41	22.7	28	15.6	111	61.7**

*: Participate mostly **: Participate not at all

4. Discussion

The average mean of women's age participated in this study was 37 years which is also reported by Rathod *et al.* (2016) [17]. They stated that 55% of rural women participated in dairy farming which is one of the livestock activities was in the middle age (29-42 years). The reason for involvement of older women in livestock activities might be the lack of responsibilities in other household activities and prefer working with animals for nutritive and financial support of entire family.

Education is a key factor for development. Education has so many social benefits like minimizing the child mortality rate, better hygiene and sanitation facilities, and availability of good quality food, higher economic returns, better access to technology and sources of information. The status of women education level is presented in figure 1. The study proved that majority (87.2%) of women are illiterate. The finding is in conformity with Muhammad Luqman *et al.* (2014) [11] and in contrast with Riasat *et al.* (2014) [18]. The cause behind illiteracy might be social constraints in Kama society and prefer men getting education instead of women.

According to our findings, women spent about 7 hours in different livestock activities from their daily time interval (24 hours). The findings which are presented by Riasat *et al.* (2014) [18] can be in consensus with present study results. They stated that without total respondents 32.5 percent of the respondents spent about eight hours in a day on livestock activities and 13.3 percent of the respondents spent about four hours in a day on livestock activities.

Women partake mostly as mentioned in table 3 in livestock management activities as like; pregnant animal care, cleaning house of animals, feeding and watering of animals, milking of animals, making dung cakes and disposing dungs other than taking health care of animals, treating of animals, vaccinating of animals, breeding and marketing of animals and their products. Similar observations were reported by Nosheen *et al.* (2011) [16] and Naz *et al.* (2018) [15]. The reason for women low participation in treatment, vaccination, breeding, and marketing of animals may be that women do not have the permission to participate in such activities which can be performed outside of home. This reason also refers to cultural constraints. On the contrary, the observations which are reported by Arshad *et al.* (2013) [3] have both conformations and contradictions. Their study revealed that rural women were engaged in a wide range of livestock management practices such as processing of milk (100%), making and storing of dung cakes (90%), collection of manure (87.5%), watering of animals and feeding of livestock (75.8%), cleaning sheds of animals (72.5%) which are in consensus with our findings that women participate mostly in above mentioned activities, but they also stated that women participate mostly in taking care of diseased animals (82.5%), brooding and breeding (64.2%) and marketing of animals' produce (60%) which are in contradiction with our findings. Cleaning the house animals got second position in livestock activities which can be less or more similar to Luqman *et al.* (2011) [11] whose data presents the activity in the top position. Both studies have consensus mostly on women's participation in cleaning the house of animals. Results from Mulugeta and Amsalu (2014) [14] study depicts that women participated regularly in cleaning the sheds of animals, preparing milk products, and gathering dungs are followed by selling milk and products, collecting eggs and selling the poultry. Rural women are occasionally participated in watering of animals and grazing of animals. Preparing barn, selling oxen and cows, delivery assistance of cows and selling of small ruminants were not at all performed by respondents. This study has more or less similarity with our findings.

According to the obtained results, women were rearing animals with 6.75 mean average per household. They were rearing mostly poultry, cattle, and sheep as presented in Table1 and were rearing mostly based on extensive, intensive, and semi-intensive rearing systems, respectively which reflects the phenomenon of courtyard rearing system. The results which are presented by Riasat *et al.* (2014) [18] are in consensus with our findings. They stated that majority of respondent (28.3 %) had buffalo, cow, sheep, and goat and 84.2 percent respondents were keeping animals in courtyard.

5. Conclusions

The present study depicted that majority of respondents were illiterate with 37 years mean age. Most of them were married and had 11 individuals per household. The study also revealed that women participated mostly in livestock management activities compared to treatment and prevention of diseases. They participated mostly in pregnant animal care, cleaning houses of animals, feeding of animals, making dung cakes, watering of animals, milking of animals, processing animals' products and disposing animals' dungs. Women were not busy with marketing of animals and their products, breeding, vaccination, treatment, and taking health care of

animals. Cattle, Buffalo, and goats were reared mostly based on intensive rearing system. But, sheep and poultry were reared mostly in semi-intensive and extensive rearing systems, respectively. They were spending about 7 hours and 9 minutes from their 24-hour time interval. Keeping in view the results of the present research, it could be recommended that the significance of women participation in livestock development should be recognized in livestock development planes and polices, and literacy programs. Furthermore, the livestock programs should be formulated according to the context of women participation.

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