

Gendered Division Of Household Labour In Livestock With Potential To Achieve Gender Equality; A Case Of District Mohmand, Erstwhile Fata, Khyber Pakhtunkhwa-Pakistan

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Abstract

Livestock being part of the agricultural system provide enormous support to rural livelihoods in the form of food, cash, and fertilizer provision. Livestock management is mostly done by household labour. However, the extent of household labour involvement with a gender perspective in livestock have not been quantified widely in the literature which is important for the identification of gender inequalities in terms of time allocation and nature of livestock activities. The exploration of these inequalities have further important bearing towards the achievement of gender equality as the 5th sustainable development goal (SDG). In this regard, the current study has been designed to examine the gendered division of household labour in livestock with potential for achieving gender equality in district Mohmand of Khyber Pakhtunkhwa-Pakistan. The study identified the existing level of gendered inequalities in terms of time allocation and nature of livestock activities. Data were collected from 323 households through interview method and analysed mainly by the use of descriptive statistics. The results show that livestock was mainly managed by household labour by the allocation of more than half of a labour-day (6.28hours). Among the household labour categories, Joint (5.20hours/day) outnumbered the other two categories i.e. Minor (0.55 hours/day) and Family (0.63 hours/day). Gender-wise household labour

division in livestock activities showed that women, female/girl children, and female family members were the most important labour contributors due to their high time allocation as compared to man, male children, and male family members. Moreover, women, female/girl children, and female family members were actively involved in indoor livestock activities, while men, male children, and male family members were mostly participated in the outdoor activities. It showed that gender inequalities existed not only in terms of time allocation to livestock activities but also in the nature of these activities. Furthermore, due to the prime labour contributors in livestock, women faced more constraints like low technical know-how for animal purchase and sale, unavailability of dry fodder, costly feed, access to credit, and training need as compared to men whose major constraints were costly feed and unavailability of dry fodder. Therefore, the developmental projects must target women centred livestock initiatives where women may not only acquire livestock assets but also to exercise control over these assets so that significant contributions towards gender equality may be attained. Moreover, the developmental projects must also address the constraints faced by women for the achievement of gender equality and strengthening of livestock sector of the study area.

Key words: Gender, Household Labour, Livestock, Gender Equality, FATA,

INTRODUCTION

Livestock rearing served as the income generating activity in the rural areas of developing countries including Pakistan (Ayoade et al., 2009; Butt et al., 2010 and Saba et al., 2020). The national level statistics shows that eight million of the rural population depends on the livestock sector and 35 to 40 percent of a household income is derived from livestock rearing (GoP, 2020). Additionally, it provides food in the shape of meat, milk, and milk products etc., fertilizer (farm yard manure), and fuel (dung cakes) and thus support rural livelihoods (Naz and Khan, 2018; Andaleeb et al., 2017; Ali, 2016; Ahmad, 2014). Livestock rearing provide the opportunity to deal with the seasonal and financial crises by providing immediate cash from its sale (Naz et al., 2018).

Pakistan is blessed with both small (goats, sheep) and large ruminants (buffalo, cattle) (Ashfaq et al., 2020; Naz and Khan, 2018). The large ruminants meet the food requirements of households in the form of milk and its products like butter, butter oil, yogurt mainly (Naz et al., 2018; Andaleeb et al., 2017; Luqman et al., 2014). While, the small ruminants not only provide food but also provides financial security during stress (Naz and Khan, 2018). Literature indicates that women mostly own small ruminants while, the large ruminants are owned by men (Naz et al., 2018; Ali, 2016; Ahmad, 2014). The inequalities in livestock ownership shows gender inequalities which further led to increased levels of poverty among the women livestock keepers (Agarwal, 2018). However, the literature indicates that women are extensively involved in livestock rearing (Ayoade et al., 2009; Butt et al., 2010; Saba et al., 2020). Along with the household responsibilities, women have been involved in various tedious livestock activities like, feeding, milking, watering, shed cleaning etc. (Ashfaq et al. 2020; Ali, 2016; Ahmad et al., 2014; Zahoor et al., 2013; Riasat et al., 2014; Khan, 2012).

Various studies showed that women outnumber men in livestock activities (Andaleeb et al., 2017). However, there is scarcity of literature regarding time allocation studies which can show exact number of hours to each and every livestock activity by the responsible person (Naz et al., 2018). In this regard, only few studies have covered the time allocation technique and has provided a comparison of man and woman involvement in various livestock activities (Saba et al., 2020; Andaleeb et al., 2017). Literature shows that on average women allocate more than half of labour day to various livestock activities (Ayoade et al., 2009; Butt et al., 2010; Saba et al., 2020; Naz et al., 2018; Andaleeb et al., 2017; Ahmad, 2014; Khan et al., 2012). However, it is a fact that along with women other family members also play an important role in livestock management. However, in the country and especially in the erstwhile FATA (Federally Administered Tribal Areas) Khyber Pakhtunkhwa province gendered household labour analysis in the livestock management is scarce and especially the time allocation or quantification has not been caught much attention (Naz et al., 2018).

In FATA, livestock is extensively reared (GoP, 2020; FAO, 2015). Both the large and small ruminants are found in FATA (Naz et al., 2020; Naz and Khan, 2018; FAO, 2015) which support rural livelihoods by lowering farm and household budget (Naz and Khan, 2018). Farm budget is lowered by the availability of farm yard manure which is a by-product of livestock, while the household budget is lowered by the availability of milk and milk products (yogurt, butter, and butter oil). Owing to the fact, that livestock rearing is important due to its multiple benefits at national and household level it is pertinent to strengthen it through some viable interventions (Tayyib, Rocca, & Bossanyi, 2013; FAO, 2015). However, strengthening of Livestock enterprise requires gender equality which has multifold positive outcomes in the form of improved household food security situation, poverty reduction, and overcoming the nutritional deficiencies through availability and accessibility of nutritious food (Tayyib, Rocca, & Bossanyi, 2013). Gender equality is basically the access to economic resources by women and their control over these resources (Agarwal, 2018). However, for the achievement of gender equality in the livestock sector it is important to first identify the areas where these inequalities exist and to which extent. In this regard, literature shows only that women dominate the sector, but at the same time show that household labour is involved. However, to which extent the household labour is involved is not been fully covered. Moreover, the household labour analysis with a gender lens is also not been covered in the literature which shows for the unavailability of gendered data in the sector which can hinder the designing and execution of a successful livestock intervention in the area. Therefore, the current study has been conducted to examine the gendered division of household labour in livestock management along with the gender wise constraints in district Mohmand of erstwhile FATA, Khyber Pakhtunkhwa-Pakistan. The study also examined the existence of gender inequalities in terms of time allocation to livestock activities and in nature of activities.

CONCEPTUAL FRAMEWORK

For the designing of conceptual framework for this research study, there is no secondary data available regarding the household labour categorization in the livestock sector. Therefore, before

the collection of primary data, a Participatory Rapid Appraisal (PRA) was carried out to understand the context and labour participation in livestock and to develop a detailed questionnaire for data collection. Hence, a conceptual framework has been developed on the basis of PRA for the understanding of gendered division of household labour dynamics in the livestock sector of the study area. The conceptual framework presented in Figure 1 not only shows the segregation of household labour in the livestock sector of the study area but also presents the gender-wise segregation of household labour.

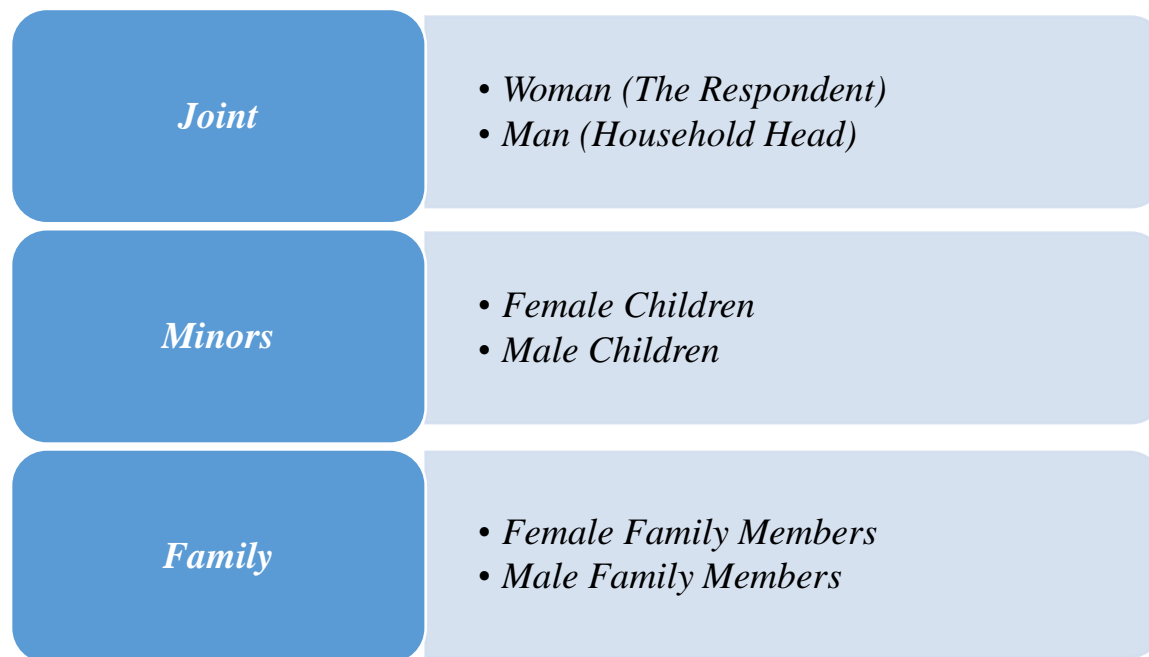


Figure-1: Household labour categories in livestock

The household labour in the livestock sector has been categorized into three groups i.e. Joint, Minors, and Family on the basis of PRA as mentioned above. These categories have been described as follow.

Joint: This category is comprised of woman i.e. the respondent of the study and man i.e. household head/father/husband.

Minors: In this category, 10-14 years age of children are included both male/ boy and girl/female child.

Family: This category comprised of family members of the respondent including both male female family members

The household labour participation (against each category) in livestock activities have been estimated. In this regard, seven distinct kinds of livestock activities which are carried out as a daily routine were considered as focus of this study. These activities included fodder cutting, feeding

animals, watering animals, shed cleaning, milking of animals, milk products preparation, and marketing of milk and milk products.

MATERIAL AND METHODS

Study area

The research study was carried out in the district Mohmand of erstwhile FATA due to the reason that livestock is extensively reared for multiple benefits to support rural livelihoods (Naz and Khan, 2018). Being rural in nature, there is less economic opportunities, especially for women of the area (Naz et al., 2020; FAO, 2015), hence livestock sector can be used as a toll for the achievement of gender equality goal of SDGs. However, to achieve this first the exploration of these inequalities in a gendered dimensions is important so that specific interventions may be placed to achieve potential results. Thus, district Mohmand served as the study site of this research which is surrounded by district Bajaur, district Dir, district Peshawar, and Afghanistan at the north, east, south-east, and west, respectively.

Sample size and sampling technique

Multistage sampling technique was employed to select the study site and sampled households. In the first stage of sampling, district Mohmand was randomly selected. In the second stage, two tehsils i.e. Halimzai and Pindiali were randomly selected randomly followed by the random selection of three villages from each tehsil. In the fourth and final stage of sampling, households were randomly selected. For the selection of sample size, Cochran formula (1963) was employed and a sample size of 323 households was derived.

Data collection

Data were collected from women respondents during the months of February to May 2016 through the use of a pre-tested questionnaire. The questionnaire included objective wise information related to gender-wise contribution of household labour to livestock activities and the various constraints in livestock management mainly. The women respondents were interviewed by the hired team of female government primary school teachers. They were well trained before the interviews. For the validity of data, key informants' interviews relevant government officials, elderly women, local elders) were also conducted. An effort has been made to conduct interviews by following the research ethics like data confidentiality and its use for research only (Khan et al., 2017).

Data analysis

To achieve the objectives of the study, time allocation technique has been mainly used (Ayoade et al., 2009; Butt et al., 2010; Saba et al., 2020; Naz et al., 2018; Andaleeb et al., 2017) and gender-wise household labour time allocation to the respective livestock activities have been recorded on daily basis. Further, the descriptive statistics and percentages were mainly used as statistical tools to present the results.

RESULTS AND DISCUSSION

RESULTS

Household labour division in livestock

Data in figure show household labour time allocation to livestock activities. An average of 6.28 hours/day was allocated to all the livestock activities. The respective time share of each activity by the household labour included fodder cutting (8.11 hours/day), feeding (10.79 hours/day), watering (4.188 hours/day), shed cleaning (5.42 hours/day), milking (4.81 hours/day), products preparation (3.759 hours/day), and marketing (0.78 hours/day).

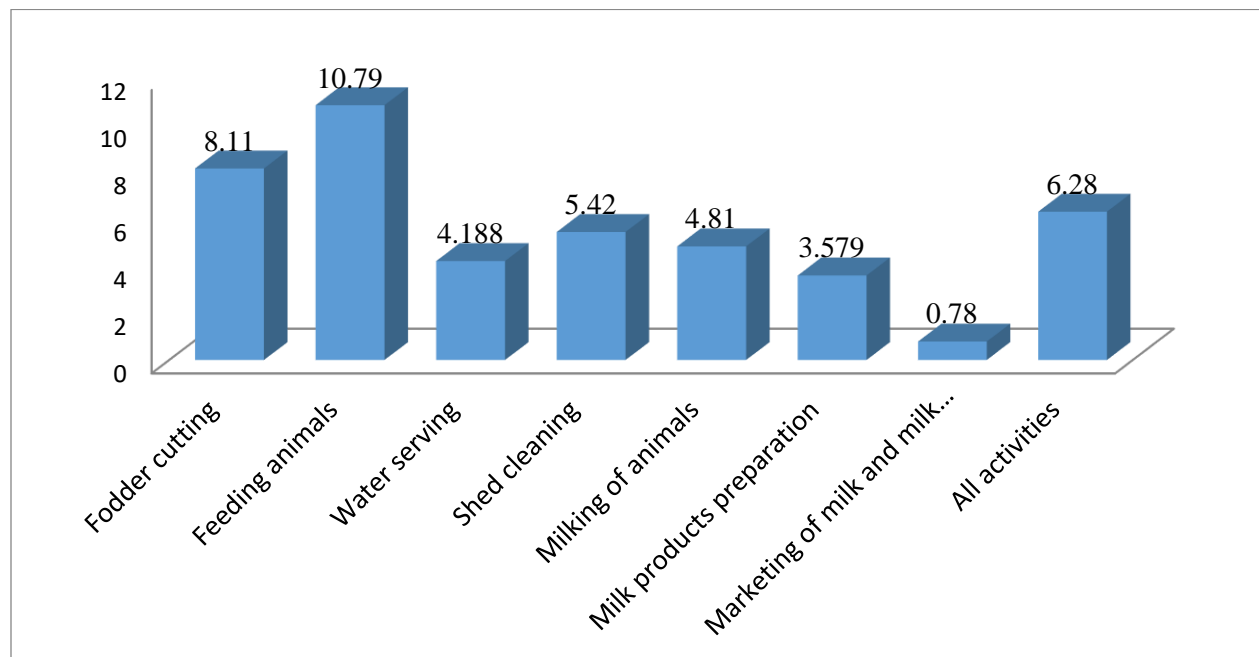


Figure-1: Household labour average daily time allocation (in hours) to livestock activities

Gender-wise Household labour categories' involvement in livestock

Data in Table 1 show the household labour categories' average daily time allocation to livestock activities. It is found that household labour categories like Joint, Minor, and Family allocated an average of 5.20 hours, 0.63 hours, and 0.55 hours of their day time, respectively to all the seven livestock activities. Joint category allocated average daily time to each activity which include fodder cutting (10.649 hours), feeding (6.333hours), watering (4.678 hours), shed cleaning (5.113 hours), milking (5.521 hours), products preparation (3 hours), and marketing (0.648 hours). The Minor category allocated an average daily time to fodder cutting (1.01 hours), feeding (0.475 hours), watering (0.634 hours), shed cleaning (0.749 hours), and marketing (0.763 hours). Family allocated an average daily time to fodder cutting (0.884 hours), feeding (436 hours), watering (0.208 hours), shed cleaning (0.40 hours), milking (0.579 hours), products preparation (0.689 hours), and marketing (0.441 hours).

Table-1: Household labour categories' involvement in livestock activities

Livestock management activities	Average daily time allocation (in hours)		
	Joint	Minor	Family
Fodder cutting	6.469	1.01	0.884
Feeding animals	10.323	0.475	0.436
Water serving	4.678	0.634	0.208
Shed cleaning	5.113	0.749	0.40
Milking of animals	5.521	--	0.579
Milk and milk products preparation	3	--	0.689
Marketing of milk and milk products	0.648	.763	0.441
All activities	5.20	0.63	0.55

Gender-wise household labour contribution in livestock management

Joint

Data in Table 2 presents the joint category time allocation to livestock activities. The Joint category allocated average daily time to each activity which include fodder cutting (10.649 hours), feeding (6.333hours), watering (4.678 hours), shed cleaning (5.113 hours), milking (5.521 hours), products preparation (3 hours), and marketing (0.648 hours). Woman, being the participant of Joint category allocated an average daily time share to fodder cutting (3.8 hours), feeding (9.5 hours), watering (4.5 hours), shed cleaning (5 hours), milking (5.5 hours), products preparation (3 hours), and marketing (0.55 hours) activities. While men allocated average daily time to the activities of fodder cutting (2.669 hours), feeding (0.823 hours), watering (0.178 hours), shed cleaning (0.113 hours), milking (0.021 hours), and marketing (0.098).

Table 2: Gender-wise Joint category's labour contributions in livestock

Livestock activities	Average daily time allocation (in hours)		
	Woman	Man	Joint
Fodder cutting	3.8	2.669	6.469
Feeding	9.5	0.823	10.323
Water serving	4.5	0.178	4.678
Shed cleaning	5	0.113	5.113
Milking	5.5	0.021	5.521
Products preparation	3.0	--	3
Marketing	0.55	0.098	0.648
All activities	4.55	0.65	5.20

Minor

Data regarding gender-wise Minors category's labour contributions in livestock management have been presented in Table 3. Data show that the minor category contributed an average daily time of 0.63 hours to the livestock activities of which 0.39 hours were allocated y female children, while 0.24 hours were by male children. The category contributed average daily time share to five livestock activities including fodder cutting (1.01 hours), feeding (0.475 hours), watering (0.634 hours), shed cleaning (0.749 hours), and marketing (0.763 hours). The first participant or member of the Minor category was female children who had allocated an average daily time to fodder cutting (0.26 hours), feeding (0.445 hours), watering (0.454 hours), shed cleaning (0.73 hours), and marketing (0.055 hours). Male children contributed average daily time to fodder cutting (0.75 hours), feeding (0.03 hours), watering (0.18 hours), shed cleaning (0.019), and marketing (0.213 hours).

Table 3: Gender-wise Minor category's labour contributions in livestock management

Livestock activities	Average daily time allocation (in hours)		
	Female children	Male children	Minors
Fodder cutting	0.26	0.75	1.01
Feeding	0.445	0.03	0.475
Water serving	0.454	0.18	0.634
Shed cleaning	0.73	0.019	0.749
Milking	--	--	--
Products preparation	--	--	--
Marketing	0.055	0.213	0.763
All activities	0.39	0.24	0.63

Family

Family category allocated a total of 0.55 hours/day on average basis to livestock activities. Of the total average time, 0.35 hours were contributed by female family members, while 0.205 hours by male family members to livestock activities. Family allocated an average daily time to fodder cutting (0.884 hours), feeding (436 hours), watering (0.208 hours), shed cleaning (0.40 hours), milking (0.579 hours), products preparation (0.689 hours), and marketing (0.441 hours). Female family member allocated average daily time to fodder cutting (0.223 hours), feeding (0.391 hours), watering (0.164 hours), shed cleaning (0.40 hours), milking (0.579 hours), products preparation (0.689 hours), and marketing (0.037 hours). Male family members allocated an average daily time to the activities of fodder cutting (0.661 hours), feeding (0.045 hours), watering (0.044 hours), and marketing (0.071 hours).

Table 4: Gender wise Family category's labour contributions in livestock management

Livestock activities	Average daily time allocation (in hours)		
	Female family members	Male family members	Family
Fodder cutting	0.223	0.661	0.884
Feeding	0.391	0.045	0.436
Water serving	0.164	0.044	0.208
Shed cleaning	0.40	--	0.40
Milking	0.579	--	0.579
Products preparation	0.689	--	0.689
Marketing	0.037	0.071	0.441
All activities	0.35	0.205	0.55

Gender-wise constraints in livestock management

Data in Table 5 show gender-wise constraints in livestock in the study area. Men faced the constraints of costly feed (92%), unavailability of dry fodder (95%), access to credit (59%), training need (15%), restricted mobility (6%), and low technical know-how for purchase and sale of livestock (9%), while 77%, 93%, 76%, 72%, 45% and 90% of women reported for the constraints like costly feed, unavailability of dry fodder, access to credit, training need, restricted mobility, and low technical know-how for the purchase and sale of livestock, respectively.

Table 5: Gender wise constraints in livestock management

Constraints	Men		Women	
	Frequency	Percentage	Frequency	Percentage
Costly feed	300	92	250	77
Unavailability of dry fodder	310	95	301	93
Access to credit	190	59	245	76
Training need	50	15	231	72
Restricted Mobility	20	6	145	45
Low technical know-how for sale and purchase of livestock	30	9	290	90

Note: Multiple responses were allowed therefore, the total frequency exceeded the sample size.

DISCUSSION

The current study assessed gendered division of household labour in livestock to find out the existing gender inequalities so that a road map may be presented to achieve gender equality while using livestock rearing as a tool. The study has been conducted in district Mohmand of erstwhile FATA, Khyber Pakhtunkhwa-Pakistan. The results show that household labour has been actively involved in livestock rearing with a considerable time allocation of an average of 6.28 hours/day which is higher than half of the labour-day. Previous studies supported the fact that livestock rearing is mainly done by the household labour involvement due to its unpaid and easy availability and accessibility (Ayoade et al., 2009; Butt et al., 2010; Naz et al., 2018; Andaleeb et al., 2017). Further, it has been found that highest time was allocated to the activities of feeding, fodder cutting, cleaning of sheds, and milking, while lowest to marketing. The reasons behind less time allocation to the marketing activity were lack of local markets/local buyers, and the lack of awareness and approach to outside markets. The same reasons for low levels of marketing have also been reported by Naz and Khan (2018) in district Mohmand of FATA as well.

Three categories of household labour i.e. Joint, Minor, and Family were participated in livestock rearing by allocating a considerable time of their daily routines. The results denoted that the Joint category was dominant in livestock activities with an average time allocation of 5.20 hours/day. Other two categories of household labour contributed less than an hour to the livestock activities. Furthermore, the joint category outnumbered all the seven livestock activities as compared to other categories because the joint category allocated high time to each and every activity. Joint category of the household labour was found dominant in the activities of feeding, fodder cutting, milking, and shed cleaning. These activities were and mainly carried out manually thus, making it more time consuming. The lowest time was allocated the activity of marketing of milk and milk products (0.648 hours) by the joint category due to the fact that the activity mainly took place within the locality and people have no access to outside markets to fetch higher prices as well (Naz and Khan, 2018). In the joint category, women outnumber in all the seven livestock activities than men with an average time allocation of 4.55 hours/day. The same fact has been endorsed in the literature that women heavily participate in livestock (Ayoade et al., 2009; Butt et al., 2010; Saba et al., 2020; Naz et al., 2018; Andaleeb et al., 2017; Ali, 2016; Geiri and Onuk, 2016). According to Saba et al., (2020), women from district Swabi, Khyber Pakhtunkhwa allocated 4.81 hours/day to livestock practices. Similarly, in district Mardan of Khyber Pakhtunkhwa, women allocated 3.22 hours/day on average basis (Naz et al., 2018) and 4.81 hours day (Andaleeb et al., 2017) to livestock practices. Women allocated more time to feeding, milking, and shed cleaning. Similar findings have been reported by previous studies like Ayoade et al., (2009), Butt et al., (2010), Saba et al., (2020), Naz et al., (2018), and Andaleeb et al., (2017). The results indicate that women were mostly involved in the indoor activities which shows their restricted mobility. Lowest time has been recorded for the activity of marketing of milk and milk products by women. Similar findings have been reported by Naz et al., (2018) and Ahmad (2014) which reported that due to an indoor activity women participated low in the activity. Men of the joint category has been found highly involved

in the activities of fodder cutting and marketing which were mostly outdoor activities. The results portray that male were mostly involved in outdoor activities and the results are supported in the literature by Utami and Seruni (2013). Similarly, the results have been supported by Saba et al., (2020), Naz et al. (2018), and Andaleeb et al., (2017) as well. The gender-wise joint category contribution in livestock showed for the existence of gender inequalities in terms of time contribution to various livestock activities.

The second category of gender-wise household labour as Minor participated in five livestock activities i.e. fodder cutting, feeding, watering, shed cleaning and marketing. Their contribution in terms of average time allocation was high to the activity of fodder cutting. They also actively participated in the activities of marketing and shed cleaning. The activities of fodder cutting and marketing served as outdoor activities, while shed cleaning is an indoor activity. Hence, Minor category participated both in the outdoor and indoor activities. The activities of milking animals and milk and milk products preparation shows no involvement of Minors due to the specialized skills requirement for these.

Gender-wise labour contribution in the Minor category show that female children were dominant in performing livestock activities as compared to male children which again shoed for the existence of gender inequalities. In case of individual livestock activities, male children were found dominant in the activities of fodder cutting and marketing of milk and milk products. Both the activities were outdoor which is suitable for male children due to their free mobility in the community. The lowest labour contribution of male children was reported for the activity of shed cleaning and animal feeding. Both the activities were indoor which were associated with the gender and thus more dominated by female children. Female children also participated in the activity of shed cleaning an indoor activity. Lowest labour contribution of the female children was recorded in the activities of marketing of milk and milk products (0.055 hours) and fodder cutting (0.26 hours) due to the fact that these are outdoor activities and thus culturally not suitable for girls. The results indicate that female children were mostly involved in the indoor livestock activities, while male children in the outdoor activities. Furthermore, female children allocated more time to livestock activities than male children which shows the existence of gender inequalities in time allocation and the nature of activities.

Family was involved in all the seven major livestock activities with a major share of time allocation to the activity of fodder cutting (0.884 hours/day). A considerable portion of their day time was also allocated to the activities of milk products preparation (0.689 hours/day) and milking of animals (0.579 hours/day). Various studies showed for the participation of family members in the agricultural and livestock activities (Ahmad, 2014; Assan et al., 2014; Khan et al., 2012; Herror et al., 2012). Female family members of the family category allocated more time to livestock activities than male family members. Hence, the gender inequalities was also evident in the category of family as well. Female family members were found to be involved in all seven livestock activities while men were only in four activities. They were not participated in the activities of shed cleaning, milking of animals and milk products preparation due to the indoor

nature of these activities. Hence, at this category level the existence of gender inequalities were present not only related to the nature of the activity but also at the time records as well. Previous studies have also endorsed these results (Naz et al., 2018; Andaleeb et al., 2017; Ahmad, 2014).

Gender-wise constraints showed that women faced low technical know-how for animal purchase and sale, unavailability of dry fodder, costly feed, training need, and access to credit, while men faced the major constraints like costly feed and unavailability of dry fodder. These results are endorsed by (Ayoade et al., 2009; Butt et al., 2010) who reported that women faced the constraints of costly veterinary services, credit and training need. Similarly, Naz et al., (2018) also reported the major constraints faced by women which included costly veterinary services, costly feed, training and credit needs. The results indicate that women face more constraints as compared to men because women are the main labour force of the livestock sector. Hence, these constraints further added to the gender inequalities as well.

CONCLUSION AND RECOMMENDATIONS

Current study examined the gendered division of household labour in livestock with potential for achieving gender equality in district Mohmand of Khyber Pakhtunkhwa-Pakistan. For this, the article assessed the existing level of gendered inequalities in terms of time allocation to the seven livestock activities and nature of activities. It has been concluded that livestock is mainly managed by household labour by the allocation of more than half of labour-day. Among the household labour categories, Joint outnumbered the other two categories i.e. Minor and Family. However, gender-wise household labour division in livestock activities showed that women, female/girl children, and female family members were the most important labour contributors due to their high time allocation as compared to man, male children, and male family members. Moreover, women, female/girl children, and female family members were actively involved in indoor livestock activities like feeding, shed cleaning, milking, and milk products preparation, while men, male children, and male family members were mostly participated in the outdoor activities like fodder cutting and marketing of milk and milk products. It showed that gender inequalities existed not only in terms of time allocation to livestock activities but also in the nature of these activities. Furthermore, due to the prime labour contributors in livestock, women faced more constraints like low technical know-how for animal purchase and sale, unavailability of dry fodder, costly feed, access to credit, and training need as compared to men whose major constraints were costly feed and unavailability of dry fodder. Therefore, the developmental projects must target women centred livestock initiatives where women may not only acquire livestock assets but also to exercise control over these assets so that gender equality may be achieved. The developmental projects must address the constraints faced by women so that not only livestock sector of the study area may be strengthened but also to achieve the potential contribution towards gender equality.

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