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RESEARCH ARTICLE

Sustainable Rural Development through Women's Engagement in Livestock Sector in Punjab, Pakistan

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ABSTRACT

In rural areas of Pakistan, a large number of women are engaged in sustainability of livestock sector which provides them employment opportunities, income and fulfil their nutrition value. This study was aimed to analyze the sustainable rural development through women's engagement in livestock sector of Punjab, Pakistan. The study was conducted in rural areas of the Punjab province of Pakistan. Multistage sampling technique was used for data collection. The sampling units including district, tehsils, union councils and villages were selected randomly. Two hundred and forty respondents were selected by systematic random sampling technique, according to Fitzgibbon table. Data were collected with the help of a well-designed interview schedule and analyzed by using different statistical techniques. Majority of the respondents (85.4%) declared livestock as a major source of income. Out of total, 66.3% of the respondents used to spend ≥ 9 hours daily in livestock management. Majority of the respondents (74.2%) affirmed livestock as a major source to fulfill the food requirement of their families. It is recommended that government and private organizations should arrange domestic livestock related skill development training programs for rural female and support them through provision of credit facilities. So that, women can play their active role in sustainable livelihood for their families and themselves.

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INTRODUCTION

All over the world, the rural women are engaged in livestock management and related agricultural activities. Throughout the world, two-third of rural people and some of the sub-urban poor people depend on livestock for their livelihood. Sometimes, livestock ladder allows the poor people to progress from modest livestock capital such as sheep, goats, poultry or even cattle. Livestock is a natural source of good quality food, milk, meat, yogurt, butter, etc. For the poor rural people, it provides social security by providing money at the time of need (Mansoor et al., 2012). Women accounted are 93% of total employment working in dairy production activities (Borkar et al., 2017).

Women play an important role in livestock care and management activities. They spend most of the time in

different activities such as milking, making and collecting dung cake, cleaning of animals sheds, watering, bathing and even sometimes grazing of animals. They also perform other difficult tasks like fodder chopping, fodder cutting, rearing and marketing of animals. Therefore, rural women are involved in almost all livestock related activities (Gocsik et al., 2015; Arshad et al., 2013; Nazli and Hamid, 2007 and Holmaan et al., 2005). Livestock is very important for Pakistan's agriculture and considered as second sub-sector of agricultural sector. It has more than 58% contribution in agriculture and 11.11% in GDP of Pakistan (GoP, 2018).

The rural women devote more time for these tasks as compared to their male counterparts. They work 12-15 hours per day for domestic chores and different economic activities i.e. livestock production, care and management. It is reported that women participation in

livestock production, care and management is about 79.4%. Women's participation in livestock related activities is 60.8% higher than men (Manzoor et al., 2018 and Andleeb et al., 2017).

Livestock resource is being important for nutrition and cultural value which significantly empower their economic status. Rural women engaged in livestock activities those also involve in domestic work and handicrafts. Livestock considered importance, especially fulfil food and nutrition value and Muslims festivals: Eid-ul-Fitar, Eid-ul-Izha for sacrifice purpose (Nori, 2004 and Alvi et al., 2015).

The rural community they have own agriculture land also have a good quality livestock farming system. Livestock offers many benefits in the sector of agriculture and considered a promoting element for rural livelihood especially for promoting female participation and decrease gender discrimination. As well as livestock provided marketing value for rural poor without any seasonal restriction, the people of rural societies have to access all season and livestock considered a daily wages activity: e.g. selling milk and milk products and selling eggs etc. (SADC, 2000 and Muhammad et al., 2016).

The women of South Asia are responsible for livestock care and management activities and farming system of crops production activities. Livestock not only provide income but also used for different purposes i.e. to fulfill nutrition value and food, provide organic fertilizer for farming activities and livestock animals used for ploughing activities. In Pakistan, women perform significant role in poultry farming activities because they care about them and apply different methods related to birds rearing. In Bangladesh, women perform almost all livestock husbandry practices including cleaning of sheds, look after of health care issues and collection fodder etc. While the study of Nepal, both male and female perform these activities i.e. milking, grazing, fodder chopping and collection, but in some activities women lonely perform her role specially related to health issues. A previous study shows the situation of India, where women perform livestock related activities and these activities vary from regions to regions (Barnabas et al., 2015). In developing countries, there is a huge demand for livestock-production and expected to double in future. Livestock, in many developing countries, is used for many benefits i.e. income-enhancement of rural people, stability of social activity, agricultural and environmental sustainability, improvement in crop-farming and crop-productivity (Nadeem et al., 2012).

Keeping in view the above stated facts, this study was aimed to investigate the economic importance of livestock management activities and to explore the role of women for livestock management activities.

MATERIALS AND METHODS

This study was conducted in the most populous province Punjab of Pakistan. The study was quantitative in nature for which a survey was conducted in rural areas of selected district. To select the sample for the survey, geographical clusters were made. Punjab province consists of 36 districts from which one district namely Nankana Sahib was selected randomly. The selected district was further clustered into tehsils from which two tehsils (Nankana Sahib and Sangla Hill) were selected randomly. After selecting tehsils, two union council (one from each tehsil) namely, 32 Machrala from Nakana Sahib and Union council no. 32 Pandorian from Sangla Hill were selected. Each selected union council consisted of many villages. So, 3 villages from each union council were chosen randomly. The selected villages were Walgan Sohail, Bahawal Kot and Alawal Kot from Machrala 120/R.B Dera Baghel Singh, 123/R.B Siranwali Bhaullair and 116/R.B Ladhar from Pandorian. The selection of the respondent was made by selecting a female household head through systematic sampling as every third household was selected in randomly selected street of the village. Determining size of sample was very crucial for which Fitzgibbon table was used. According to this table, a sample of 240 respondents was sufficient for the present study. It is important to mention here that proportionate sample was selected from each village. It means that larger number of respondents was selected from villages with larger population. A well-structured interview schedule was used to collect the data. Interview schedule was used as the majority of rural population in Pakistan is less educated and they do not understand English language. So the data collection team administered the interviews themselves. They also translated the questions into Urdu or Punjabi (languages usually used in the areas) at the time of interview so that respondent could clearly understand the questions and give answers properly. The results of data collected are presented in next section.

RESULTS

Graph 1 shows that a great majority (85.4%) of the respondents reported livestock as the major source of family income, a few 7.5 % of the respondents said that they earned income from other sources (Labour, Job, small business) for their family. Only 7.1% had agriculture as their major profession. The underlying reasons for this finding can be seen in the distribution and sub-distribution of land among the land-holding families in Punjab. Resultantly, the average land-holding is shrinking even under the subsistence level. Therefore, the trend is emerging to mainly depending upon the livestock to fulfill the needs of the family.

Role of women in sustainable rural development

The information presented in Graph 2 reveals that majority (66.3%) of the respondents spent ≥ 9 hours daily for livestock care/management. About one-third (28.8%) from total respondents spent (5-8 hours) a day for livestock care/management. Only 5.0% of the women spent 1-4 hour a day for livestock care/management. It has been reported in the scientific literature that the rural women devote more time for livestock-related tasks as compared with men. Women spent 16-18 hours per day against men who devote 8-10 hours per day for livestock care and management.

Graph 3 reveals that a majority (74.2%) from total sample were involved in livestock care/management said that, they support their families to great extent. Less than one-third (24.2%) of the respondents were involved in livestock care/management to support their family to some extent. A few (1.7%) of them were involved in livestock management, not at all, to support the family.

Women with higher income tend not to be involved in livestock management. It is popularly seen in rural Punjab that well-off families mostly do not allow their females to leave the four walls for participation in income generation activities especially livestock management. The same idea was up-held by the results of chi-square results in this study. It was hypothesis of the study that higher the income of the respondents, lesser will be the participation of women in livestock management activities.

Chi-Square = 13.121; d.f = 6; P value = 0.041*;
Gamma = 0.070

Significance level = Significant at 5%

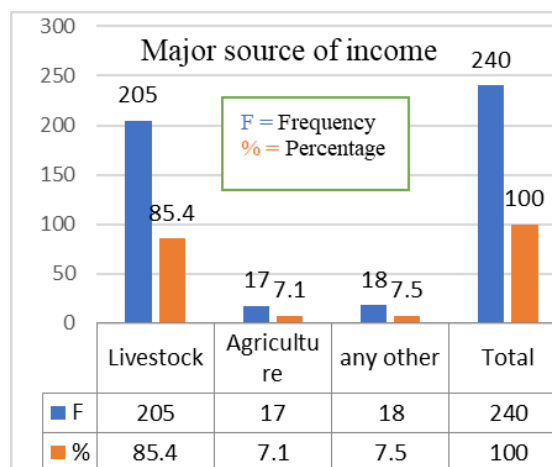
Result = Hypothesis Accepted

Table 1 presents the association between monthly income of the respondents and women's participation in livestock management activities. The significant results of the study approved the hypothesis and it was concluded that women with higher incomes tend to give low participation in livestock management activities.

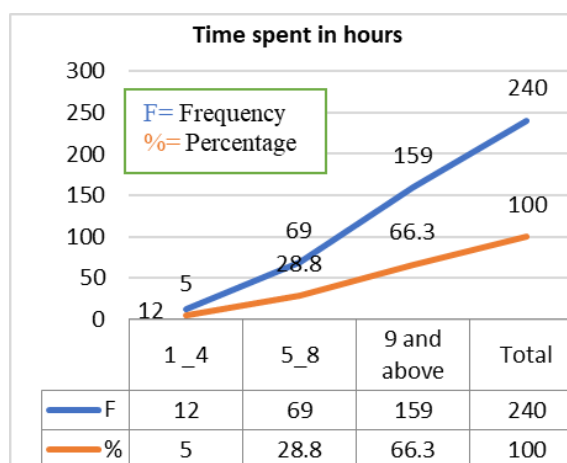
A positive Gamma value shows that as income of respondents increases, the participation of respondents decreases.

DISCUSSION

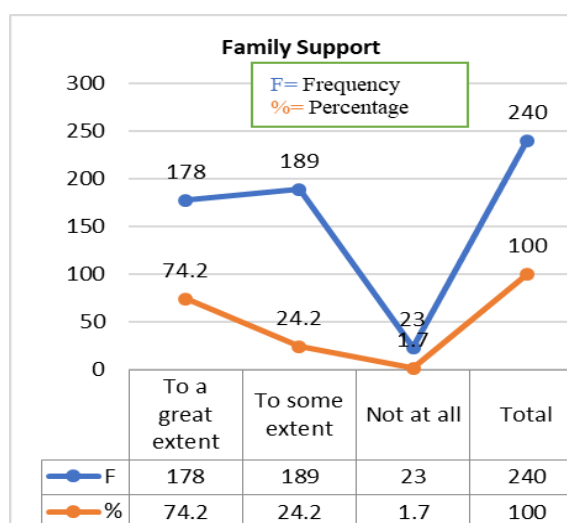
In Pakistan, rural women had been attributed for their significant role in poverty alleviation through production and processing of livestock (Munawar et al., 2013). Findings of Riasat et al. (2014) also revealed that women participation in livestock activities increased production and income generating activities. It was also concluded that the women who are involved in livestock management activities are empowered (Muhammad et al., 2016). Through such activities they can generate income to fulfill their basic necessities (Manzoor et al., 2018). Women of rural areas are being



Graph 1: Distribution of the respondents according to major source of family income.



Graph 2: Distribution of the respondents as time spent for livestock care/management.



Graph 3: Distribution of respondents as involvement in livestock care to support family.

Table 1: Cross tabulation of monthly income of the respondents and women's participation in livestock management activities.

Monthly income	Women's participation in livestock Management			Total
	High	Medium	Low	
1000-3000	12	14	6	32
	5.0%	5.8%	2.5%	13.3%
3001-6000	33	13	6	52
	13.8%	5.4%	2.5%	21.7%
6001-9000	23	35	13	71
	9.6%	14.6%	5.4%	29.6%
9001-above	35	38	12	85
	14.6%	15.8%	5.0%	35.4%
Total	103	100	37	240
	42.9%	41.7%	15.4%	100.0%

empowered from that money. Women role in livestock management is as in care and production activities i.e. milking, rearing of young animals, collection of dung cakes, making of dung pads, bathing, fodder cutting and chopping, care of their animals during health issues or on daily basis, cleanliness of animal sheds and other cleaning activity mostly were undertaken by women (Taj et al., 2012). Livestock is very important for poor people of rural areas. It not only fulfil their nutritional and proteins needs but also fulfill their financial needs especially at the time of emergency. In agriculture value addition Livestock accounts for 55%. Livestock share in agricultural field is higher than all other sub sectors of agriculture. Livestock share in GDP of Pakistan is 11.11% (GoP, 2018). Livestock is also a source of livelihood for smaller farmers and landless poor.

It has been reported in the literature that Pakistani rural women mostly are landless and their basic needs such as clothes, shelter and nutrition are hardly fulfilled. Rural people play significant role in crop and livestock production. Women work hard to fulfill the basic needs of their family. Women have a special interest to work in the field of livestock care, production and management (Muhammad et al., 2016). Furthermore, women participation in livestock care and management is about 79.4%. Women participation in livestock-related activities is 60.8% higher than men. Women participate in livestock and agricultural related tasks such as livestock, poultry and crop production. In the Punjab province of Pakistan, a large number of women participate in livestock care and crop production but, unfortunately, they don't have enough knowledge about their work (Amin et al., 2010; Anwar et al., 2012; Ahmad and Hussain, 2004 and Alvi et al., 2015).

Conclusion

In various areas of life, rural women are playing an important role. Women are the main players to sustain the activities of the life both at farm and home. They are the active participants in agriculture, poultry and

livestock management. It was found that majority of the respondents were having buffaloes and cows and they are performing livestock care / management activities i.e. milking, feeding, watering, fodder collection, breeding, cleaning of sheds, processing of milk, making animals sheds, fodder cutting, fodder chopping, selling milk products, grazing, collecting the dung, making the dung pads, rearing young animals and bathing the animals. A half of them were spending 9-12 hours in livestock care and management activities and a major proportion of them were earning RS; 9000 above monthly by selling milk products. It was found that main objectives of their participation included support for family, utilization of free time and to fulfill their requirements. Rural women also performed household chores and family and child health care activities. Government and non-Government organizations should make policies about women's skill enhancement so that women's can fulfill their needs and role is enhanced for sustainable development.

Authors' contribution

AM conducted this research, NF conceived the idea and conceptualized it. IAK and AHQ helped in the write up and revision of research article. NJ helped in data collection. SA conducted the data analysis. AAM supervised this research and AA helped in data collection.

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