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MANAGEMENT PROFILE AND CONTRIBUTION OF LIVESTOCK IN POVERTY ALLEVIATION AND NUTRITIONAL IMPROVEMENT IN PERI-URBAN AREAS OF FAISALABAD

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The objective of this survey was to study the profile of livestock, extent of livestock management, production systems, product consumption, marketing and their contribution in poverty alleviation and nutritional improvement in sub-urban areas of Faisalabad city. Approximately 35 respondents from Sheikhupura road, Jhumra road, Millat road, Jhang road, Samundri road, and Chukera colony at Narwala road, at least 7-11 kilometers away from the city, were interviewed to get the desired information. The data was collected for the feeding pattern parameters like family personnel, herd structure, livestock management profile, breeding and feeding of animals, health cover, livestock products, their consumption and marketing, technological interventions used, credit facilities, extension services in the area and role of farmers association, etc.The ratio of farmers having one child infant and adult per family among all the respondents was 38.1, 31.9, 31.4, and 52.4 % for male and female, respectively. About 22.9 and 20 % of the respondent's were having 1 male and female child going to Madrissah. A high percentage of respondent farmers 31.9 and 17.1 % possessed total family members of 2, whereas total family members ranged from 1-9 including all classes of their family. The mean strength of cattle, buffaloes, small ruminants, and breeding animals was 6.03, 17.7, 1.2, and 0.49 on overall basis. All of the respondents were non-agriculturists and about 90 % of the farmers did not use fodder as animal feed due to limited or no land holdings. About 73.3 % of the farmers used natural mating, 24.8 % used AI, and 1.9 % used both methods for breeding of animals. Buffalo was the main diary animal kept for milk production. Average milk production from both buffaloes and cows was 7 kg per day and cost of the milk produced was noted to be on an average Rs. 20 per kg. Farmers main sources of income were found to be livestock farming, majority of farmers (56.2 %) earned income above Rs. 7000 per month from the sale of animal products. None of the farmers was visited with extension workers. Only 5 % of the farmers got loans for livestock business. None of the respondents knew about any breed association and member of any association. It is recommended that in order to improve livestock production in the area, extension messages should be targeted using extension officer visits and demonstrations.
Keywords: Management profile, livestock, poverty alleviation, nutritional improvement

INTRODUCTION

The livestock sector is an integral part of agricultural economy of Pakistan. The livestock accounts for 49.1 % of the Agricultural GDP and about 11.4 % of the total GDP, which is derived from livestock population of 25.5, 23.8, 24.7, 54.7, and 5.4 million buffaloes, cattle, sheep, goats, and other animals, respectively (Economic Survey, 2003-04). Livestock plays an important role in the lives of the peri-urban farmers around the Faisalabad city as these are the farmers evacuated recently from the urban dwellings as an effort of cleaning the city and maintaining hygienic conditions in these areas. The pivotal role of livestock in nutrition, directly through the consumption of animal products by livestock owners and their families has been confirmed by FAO experts (1999). The sale of animals and their products as a source of family income is inventible. Milk and its products being nearly one third of world's intake of animal protein (FAO, 1998).

Per capita availability of milk in Pakistan is 151 liters per annum and meat is 19 kg per annum (Economic Survey, 2003-04). Though much less than the developed countries but even much better while comparing with those of neighboring countries. Among several functions performed by the livestock, production of food of high biological value (milk and meat) is of prime importance to feed the nation. Buffalo being the main player in providing milk in the sub-urban areas as that of the country being the major of 75 %. Moreover, these animals are also a source of cash income for most of the farm families (Gill, 1998). Livestock have a positive effect on diets, health, incomes, financial security, sustainable crops yields, employment prospects and social status. Livestock embody saving and provide a reserve against emergencies.

The present study was, therefore, planned in the peri-urban areas of district Faisalabad city to evaluate the management practices and production systems of livestock kept, to study the role of animals as an agent of poverty alleviation, to assess nutritional improvements

of the livestock farmers and their families through provision of meat, milk and other products.

MATERIALS AND METHODS

The domain of the present study comprised the peri-urban areas of Faisalabad city within a 7-11 km radius. The size of the sample and type of respondents were arbitrarily fixed. A list of all the peri-urban areas falling within the jurisdiction was prepared and six peri-urban areas of Faisalabad were randomly selected. About 100 questions were asked from the respondents in face to face situation at their doorstep. A total of ten interviewing schedules were pre-tested and the flaws noticed were removed. Rapport with the interviews was developed as it provided the needed awareness and ensured confidence. The respondents comprised the household heads, livestock owners, and dairy farmers which were as small farmers (having < 10 animals), medium farmers (having 10-50 animals), and large farmers (having > 50 animals) actively engaged in livestock business. The data regarding livestock production profile were collected from 210 respondents. Thirty-five farmers from each area selected randomly were interviewed to collect the requisite information on the following parameters of livestock production activities for the study.

a) Family personnel, education level, and their profession of respondents
b) Livestock management profile
c) Herd structure
d) Breeding of animals
e) Feeding of animals
f) Health cover
g) Livestock products, their consumption and marketing
h) Technological interventions used
i) Credit facilities
j) Extension services in the area
k) Farmers association

The data collected was tabulated and subjected to statistical analyses by using SPSS package by using percentage, cross tabulation, and chi-square techniques to deduce the valid conclusions.

RESULTS AND DISCUSSION

a) Family profile

The ratio of farmers having one child infant per family among all the respondents was 38.1 and 31.9 % for male and female, respectively, whereas total number of infants ranged from 0-4. Similarly, the ratio of farmers having one adult per family among all the respondents was 31.4 and 52.4 % for male and female, respectively, whereas total number of adults ranged from 0-6. About 22.9 and 20 % of the respondent's were having 1 male and female child going to Madrissah whereas total number of children going to Madrissah ranged from 0-3. A high percentage of respondent farmers 31.9 and 17.1 % possessed total family members of 2, whereas total family members ranged from 1-9 including all classes of their family. However, few families of either sex alone were involved (14.8 %) males and (3.8 %) females in livestock business. Reason being that males were still unmarried and in some families (3.8 %) their male members have died or divorced.

The results revealed that 109 livestock farmers (51.9 %) perform all livestock chores like management, feeding, milking, housing, and cleaning, etc. without involving any paid laborers . About 41 % of the families have engaged 1-2 laborers and very few businessmen (0.5- 3.3 %) have engaged 3-6 workers. Some scientists like (Tegegne, 2004) have shown that livestock production provides an opportunity for employment and income generation. Our study clearly indicates that these farmers dwelling in the peri-urban areas of the city are self employed in their livestock business and their stay in this business indicates that they are not only earning their bread and butter, but also livestock farming activity is a good source of income generation for their livelihood.

Out of the 210 respondents, 123 (58.6 %) were illiterate, 74 (35.2 %) were matriculate and only 13 (6.2%) were inter and above. About 178 (84.8 %) were involved fulltime in livestock business, while 32 (15.2 %) were having part time business along with their government job (1 %), private job (6.2 %), or any other (8.1 %). This result is in close relevance with the study of ADB (2003), and Ghotge and Ramdas (2002) where more than 70 and 80 % of its working population is engaged in subsistence agriculture, and livestock being an integral part of their economic activities. FAO (2003) also highlighted that, worldwide more than 600 rural people depend on livestock for a significant part of their livelihood.

b) Livestock management profile

Table 3 indicates that (100 %) of the respondents were non-agriculturists while no livestock farmer was agriculturist. The results of this study relates to the study of Turner (2004) who reported that poor livestock producers tend to own little or no land. The same was observed in this study where farmers also possessed no land in these sub-urban areas as they were being evacuated from the city to dwell in these livestock colonies and they had no land to perform agricultural operations and grew fodder for feeding their animals.

Table 1. Average livestock strength maintained at the farm as classified by age group

Age group	Mean ± SD			
	Cattle	Buffalo	Small ruminants	Any other
Young (< 1 yr)	0.98 ± 1.72	1.4 ± 2.0	0.19 ± 0.88	0.05 ± 0.24
Mature (1-3 yr)	0.8 ± 1.22	1.94 ± 1.46	0.98 ± 1.89	0.43 ± 0.62
Adult (> 3 yrs)	3.68 ± 4.58	13.3 ± 13.3	0.03 ± 0.34	0.01 ± 0.22
Breeding	0.57 ± 0.71	1.06 ± 1.09	0.00 ± 0.00	0.00 ± 0.00
Overall	6.03 ± 8.23	17.7 ± 17.8	1.2 ± 3.11	0.49 ± 1.0

Table 2. Production and sale of milk in summer and winter (morning and evening)

Milk yield and milk sold out (kg/day)		Summer		Winter	
		M	E	M	E
< 100	Production	180 (85.7 %)	181 (86.2 %)	156 (74.3 %)	155 (73.8 %)
	Sale	179 (85.2 %)	182 (86.7 %)	158 (75.2 %)	155 (73.8 %)
100-300	Production	28 (13.3%)	26 (12.4 %)	47 (22.4 %)	48 (22.9 %)
	Sale	29 (13.8 %)	26 (12.4 %)	47 (22.4 %)	49 (23.3 %)
> 300	Production	2 (1.0 %)	3 (1.4 %)	7 (3.3 %)	7 (3.3 %)
	Sale	2 (1.0 %)	2 (1.0 %)	5 (2.4 %)	6 (2.9 %)
Total	Production	210 (100 %)	210 (100 %)	210 (100 %)	210 (100 %)
	Sale	210 (100 %)	210 (100 %)	210 (100 %)	210 (100 %)

Table 3. Association between No. of cattle and income per

No. of animals	Income per month				Total
	< 3000	3000-15000	> 15000	Loss	
1-20	21	40	51	7	119
21-40	7	6	44	4	61
41-60	2	1	12	1	16
61-80	-	1	7	2	10
81 & above	-	-	4	-	4
Total	30	48	118	14	210

Pearson X^2 = 29.716** d.f = 12 ** = Highly significant (p < 0.01)
Contingency Coefficient = 0.352** ** = Highly-significant

Table 4. Association between total milk yield (kg) and income per month

Income per month	Total milk yield (kg)			Total
	< 500	500-1000	> 1000	
Low (< 3000)	30	-	-	30
Medium 3000-15000	46	2	-	48
High > 15000	89	20	9	118
loss	13	1	-	14
Total	178	23	9	210

Pearson X^2 = 19.219** d.f = 6 ** = Highly significant (p < 0.01)
Contingency Coefficient = 0.290** ** = Highly-significant

c) Herd structure

Various classes of the livestock were inquired to know the herd profile of all respondents. Table 1 show that the farmers kept most of the adult milch cattle and buffaloes to make their milk supply smooth during the whole year. Some farmers also kept sheep and goats. The mean strength of cattle, buffaloes, small ruminants, and breeding animals was 6.03, 17.7, 1.2, and 0.49 on overall basis. Different farmers maintained young animals (<1 year) as (0.98, 1.4, and 0.19), mature (1-3 years) ones as (0.8, 1.94, and 0.98), and adult (> 3 years) ones as (3.68, 13.3, and 0.03) cattle, buffaloes and small ruminants. These results are in relevance to the study of Losada, et al (1996) who reported that the number of milch animals in each household varied between 3 and 250 with the highest percentage of producers (63 %) owning small herds of between 3 and 19 animals.

d) Breeding of animals

The percentage of farmers using methods of breeding cattle and buffaloes has been reported as (73.3 %) by natural mating, (24.8 %) by Artificial Insemination (AI), and (1.9 %) by both methods.

e) Health cover

The Farmers who vaccinate against FMD were (98.1 %), (99.0 %) for HS and BQ, leaving others. About 96.2 % farmers use anthelmentics, majority (95.2 %)go are Analyzing the non-use responses, it was found that (3.3 %) were ignorant, (0.5 %) claimed it be expensive.

f) Livestock products, their consumption and marketing

A high percentage of farmers (85.7, 86.2, 85.2 and 86.7 %) reported production and sale of milk less than 100 kg per day in morning and evening timings in summer, whereas (74.3, 74.8, 75.2 and 73.8 %) reported production and sale of milk in morning and evening timings in winter season. As the milk production and milk sale increases, percentage of farmers decreases as given in. These results are in accordance with the study of FAO expert (Sansoucy 1982) who emphasized the importance of direct contribution of livestock to food security and sustainable development at global level. The results of this parameter also relate to the study of ADB (2003) which showed that livestock provides both additional household income and nutrition for the family. The results of this parameter also relates to the study of Thomas and Bhatt (1994), and Baumann (2000) which shows that livestock provide milk for the market and for household use.

As for as milk consumption trend is concerned in summer season, about (95.7 and 95.2%) of the farmer families in morning an evening consumed milk less than 5 kg per day, whereas this was lower in winter season i.e., (74.8 and 59.0%). About (4.3 and 4.8 %) of the farmers with families in morning and evening in summer season consumed milk 5-10 kg/day while (23.8 and 39.5 %) of the farmer families consumed milk 5-10 kg/day in winter season(morning and evening). In winter season, (1.4 %) of the farmer families consumed milk above 10 kg/day in morning and evening whereas no farmer family was reported consuming this amount of milk at home.

g) Technological interventions used

None of the respondents made silage, treated their wheat straws, used urea molasses blocks, only (0.5 %) used mixed cattle feed, whereas (23.8 %) used mineral mixtures. Farmers have no information about silage making. The reason for non-adoption of straw treatment was the farmers do not know about this technique. Moreover none of the farmer goes for fodder preservation. The most probable and simple reason could be that they do not have surplus fodder for purpose.

h) Credits/loans for livestock business

Only 5.0 % of the respondents availed loaning facility for livestock business. Mainly three sources of loans were identified as milk collector, money lender, and from friends. Actively farmers showed their interested for low interest rate, easy terms and conditions, long-term loans, short procedural facilities, and personal guarantee to be sufficient.

i) Breeders/farmers association

The respondents are not aware about any breed asscciation.

j) Farmers income

A highly significant association was found between number of animals and income per month. Similarly, a highly significant association between milk yield and income per month was noticed. As the milk yield increases, income per month also increases and farmers.

CONCLUSION

The results of the study revealed that livestock play an important role in provision of nutrition, food security, income generation, poverty reduction, employment prospects, and improvement of livelihood, kept by these landless livestock farmers and their families being evacuated from the city to dwell in livestock business. The result also revealed that population of

Faisalabad is mainly dependant on these livestock farmers for their nutrition in the form of milk and meat. In future, as the land holding getting smaller, the livestock sector has a great potential to raise economic conditions of the rural families.On overall bases this could be an appropriate and viable strategy to alleviate poverty in the country.

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