

CONSTRAINTS TO LIVESTOCK PRODUCTION IN THE PUNJAB, PAKISTAN : A CASE STUDY OF DISTRICT SARGODHA

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ABSTRACT

Livestock is an important component of rural economy especially in developing countries including Pakistan. Its share in overall country's GDP is more than the share of crop sector. In spite of its importance, this sector is facing a number of problems/constraints. In order to explore those constraints, Present study was conducted during 2013 in district Sargodha. For this study , Sargodha district was selected being famous for variety of crops as well as livestock. The data were collected through structured interview schedule from 2000 randomly selected livestock farmers from five tehsils of the district. A mixture of both qualitative and quantitative methods were used for the collection of data. The data were finally analysed using Statistical Package for Social Sciences (SPSS). Both inference and correlational statistics were used for the interpretation of results. It was concluded that about 40.0 percent of respondents were illiterate. Among literate respondents only a small percentage (5.2%) of respondents had education with ten years of schooling and only 3.5 percent of them had education more than 10 years of schooling. The livelihood strategies of majority (42.0%) of respondents were both crop and livestock farming. More than half (55.7%) of respondents adopt livestock farming on semi-commercial basis. Among different constraints faced by livestock farmers, high energy prices was on the top with highest mean value ($\bar{x} = 4.16/5.00$). From the results of chi-square statistics it was further concluded that educational status and accessibility of respondents to the city are highly important to overcome the constraints faced by livestock farmers in the study area.

KEYWORDS: Livestock production; problems/constraints; food insecurity; Pakistan.

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INTRODUCTION

Livestock rearing is one of the important sub sectors of agriculture in majority of the countries with agrarian economies(17).It plays an eminent role in retaining livelihoods of rural communities through provision of food, raw materials and cash income(3), and also contributes in the rural development as well(4). Various research studies have proved that livestock sector has significant contribution in the livelihoods of rural poor (2,5,9,10,16,23). Like other developing countries of the world, similar situation prevails in Pakistan where more than half of the population lives in rural localities and relies on agriculture for livelihoods (7).

It has been observed that to address the food insecurity issues of ever growing population of the country, livestock sector offers diverse and multidimensional benefits to the rural poor(1).More specifically, Husnain and usmani (13) reported that livestock can be the most secure and permanenet source of cash income for small and landless farmers that are considered more vulnerable to poverty. Moreover, in overall national development of the country last year, this sector contributed a significant share of about 55.9 percent of the agriculture sector and its share in GDP stood at 11.9%, higher than crop sector share (7).Insipte of its importance at individual/household and national level, overall performance of this sector in the country is not upto the mark.Regarding problems of livestok sector in Pakistan (1,21,22) and many other researchers reported that this sector faces a number of problems, that undermine the genuine potential and progress of this sector.These problems hinder in achieving the goals of sustainable agricultural and rural development in the country.

The development of livestock sector plays a vital role in country's overall economic growth. Crop production alone might not be the appropriate solution to the problems of poverty and food insecurity at household level(14). In the prevailing situation, need of the hour can be to develop livestock sector as perinternational standards to cater to the meat and milk demands of rapidly growing population of the country. With this motive, the initial step must be to identify the core issues/problems of the livestock farmers so that they can contribute better in the livestock sector by adopting latest and up todate production and management practices. The presernt study was designed to explore the constraints/ problems being faced by the livestock sectornthrough evaluation of different socio- economic aspects.

MATERIALS AND METHODS

The current research was conducted at Sargodha District Sargodha during the year 2013 which is very famous for variety of crops as well as livestock. The data were collected from five tehsils/sub-district administrative units of district Sargodha namely; Sargodha, Bhalwal, Shah Pur, Sillanwali, and Kot Momin. A list of livestock farmers was prepared with the consultation of local farming community and livestock department. From each of five tehsils, 400 respondents were selected through simple random sampling technique. Making a total sample size of 2000 respondents. Different qualitative and quantitative methods were used for the collection of data from subjects/respondents. The quantitative data were collected with the help of structured interview schedule (research instrument) comprising both open and close ended questions. The interview schedule was designed with the consultation of teaching staff at University College of Agriculture, University of Sargodha, in accordance with the research emphasis of the study. Five point likert scale was used to identify the level of constraints faced by the respondents. On the other hand, qualitative data were collected through interview guide¹. The data thus collected was coded in Microsoft Excel, and then analyzed with the help of Statistical Package for Social Sciences (SPSS). Both inferential and correlational statistics were used to interpret the results.

RESULTS and DISCUSSION

Education is considered as one of the elementary pillar of human development. Development practitioners reported that education is one of the major livelihood assets of an individual. Particularly in rural areas it is the fundamental factor in achieving the targets of sustainable rural development especially by the rural poor. Keeping in mind the importance of education, the data regarding educational status of the respondents (livestock farmers) was collected and placed in Fig. 1.

Fig. 1 indicates that illiteracy can be found as a major problem among livestock farmers within the study area. It shows that; 39.4 percent of respondents were illiterate having no formal education, whereas 29.3 and 22.8 percent people were found literate having secondary and primary education, respectively. The results indicate the low literacy among the farmers. These findings are in accordance with the data reported by

¹ Interview guide comprising open ended questions

Government of Pakistan that illiteracy is very common in the rural areas of Pakistan (7). The percentage of illiteracy in rural areas of all four provinces of Pakistan is well depicted from Fig. 2 as given below.

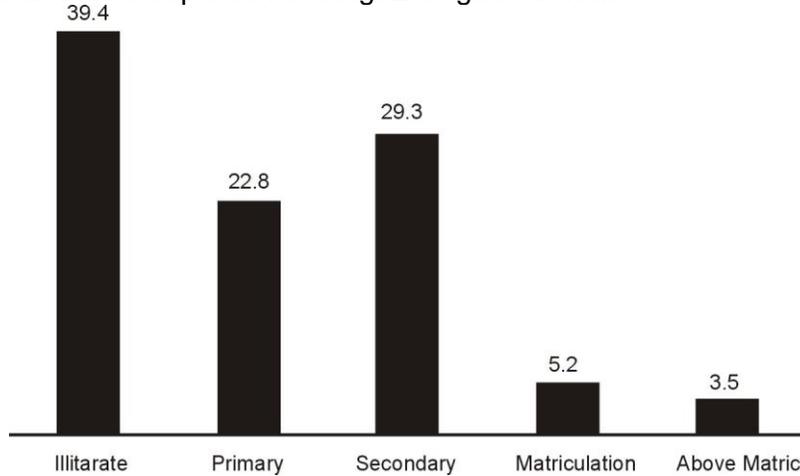


Fig. 1. Distribution of respondents according to their educational status

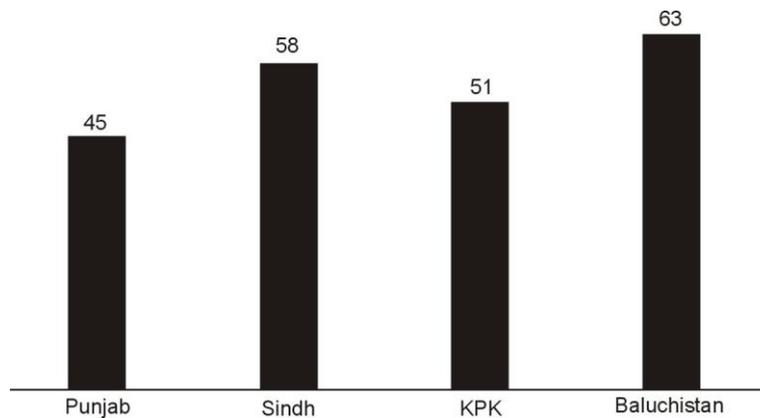


Fig. 2. Percentage of illiteracy in rural areas of four provinces

The data presented in Fig. indicate the high illiteracy level in four provinces of the country. This confirms the findings of present study that majority (about 40%) of the people in the research area were illiterate. This is one of the major reasons behind the persistent poverty in these areas. Similarly, Idrees *et al.*, (17) reported the problems of livestock farmers in district Peshwar (KPK province) and concluded that majority of the farmers were illiterate. Further they observed that education had significant positive impact on the

performance of farmers. The low educational status in rural areas of Punjab might be due to the fact of prevailing poverty, minimum resources lack of and alternate earning possibilities to support family expenditures. The rural poor people utilize the major portion of their daily earnings to fulfill their basic needs such as food, shelter and cloths(18).

Sources of income

An individual's income plays an important role at household level in the context of rural poverty. It refers to the money received by an individual as a reward in connection to his/her work or services provided by him/her during a definite period of time (8). The sources from where the individual's generate income are referred to as sources of income or means to earn money for livelihood expenses. These may be farm i.e. agricultural sources or non-farm non- agricultural sources. In the present study, the respondents were asked about their major sources of income by which they meet their daily household expenses. The data is depicted in fig.3.

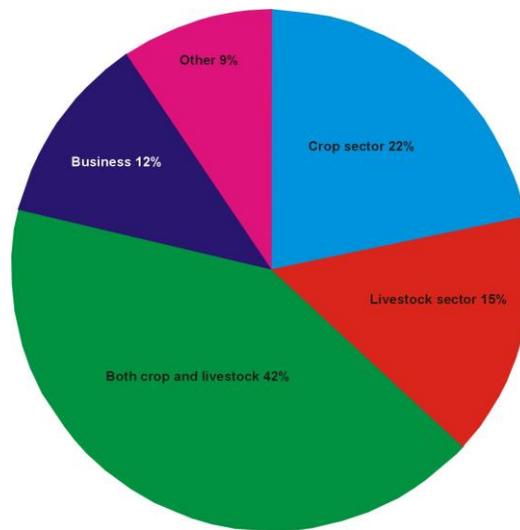


Fig. 3. Distribution of respondents according to their major source of income

The data (Fig. 3) showed that respondents in study area earned income from various sources. Major share of their income came from crop and livestock sectors as reported by majority (42.0%) of the respondents. Twenty one percent respondents reported their major source of income other than agriculture that might be job/service in any public or private offices, labour,

business, etc. The findings of present survey conclude that crops and livestock sector are major income generating source in rural localities with majority of the rural people associated with these professions for their livelihood. These findings are in accordance with the results reported by earlier (12). They concluded that in rural areas majority of people earn income both from crop and livestock farming. So, crop and livestock sector serve as major livelihood source in rural areas of the country.

Purpose of livestock rearing

Animal rearing within agricultural settings is referred to as livestock raising. Livestock rearing is a well-known profession around the globe, deployed in combination with crop sector for earning income and fulfillment of domestic needs. In rural areas of Pakistan, farmers rear livestock for meat, milk and draughting purposes. Keeping in mind the suitability of purposes in the local situation of the study area, the respondents were asked questions regarding their major purpose of livestock rearing at their farms. The response is presented in Fig. 4.

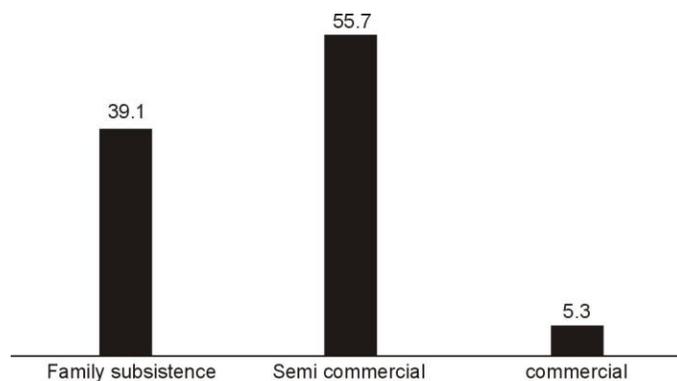


Fig. 4. Distribution of respondents according to their purpose of livestock rearing.

The data presented in Fig. 4 showed that a majority (55.7%) of respondents rear livestock for semi-commercial purposes. During interviews/discussion with respondents, it was observed that majority of rural people rear livestock for a variety of purposes. They utilize some part of meat, milk, draught and other by-products that are utilized at their homes and some of these sell to the market. The findings of qualitative data confirmed the findings of quantitative data that the major purposes of rearing livestock of majority of the respondents were domestic as well as commercial. Majority of respondents reported that in rural areas livestock rearing play a significant

role in ensuring food security situation as well as it helps reduce poverty at household level. These qualitative results are in line with earlier findings (4) which concluded that livestock ownership has positive impact on poverty level and food security situation in rural areas. However, about 39.1 percent of the respondents reported that they rear livestock for family subsistence. These findings are in accordance with the results presented by Khan and Usmani (16) who explored the characteristics of rural subsistence small holder livestock production system in Pakistan.

Constraints of livestock farmers

Like other developing countries, livestock sector in Pakistan is also facing a number of challenges and constraints. These constraints are directly linked with the livestock community who raise livestock and also contribute in national economic development. The dire need of the time is to critically review and analyze these issues to develop livestock sector on modern scientific lines. So constraints of livestock farmers were identified with the help of five point likert type scale (1 = None, 2 = Low, 3 = Medium, 4 = High, 5 = Great) as presented in Table 1.

Table 1. Constraints faced by livestock farmers in the study area .

Constraints	Mean	SD
High energy prices (electricity, gas etc.)	4.16	0.907
Lack of availability of loan/micro finance	4.14	0.895
Lack of advisory services/consultancy	4.13	0.879
Lack of training facilities	4.07	0.905
Poor breeding services/AI	4.05	0.980
Poor marketing structure	4.05	0.946
High feed/material price	4.04	0.921
Low milk prices	4.03	0.963
Poor veterinary services	4.02	0.980
Lack of storage facilities	4.02	1.072
Unavailability of good animals (Genetics)	3.97	1.023
Low quality feed	3.95	0.982
Low production per animal	3.90	0.928
Improper transportation	3.90	1.090
Exploitation by the middle man	3.83	1.053
High incidence of diseases	3.82	1.071
Fodder shortage	3.75	1.115

Scale: 1 = None, 2 = Low, 3 = Medium, 4 = High, 5 = Great

The data showed (Table 1) showed that high energy prices especially electricity and gas ($\bar{x} = 4.16/5.00$) were found to be the major constraint with highest mean value. Some other constraints ($\bar{x} > 4$) faced by livestock

farmers were; lack of loan availability and micro finance, advisory and consultancy services, training facilities, poor/limited availability of breeding services (artificial insemination), poor livestock marketing structure, high prices of fodder and concentrate, low milk prices (purchased by middleman), poor veterinary services at the door steps and lack of storage facilities ($\bar{x} = 4.14$, $\bar{x} = 4.13$, $\bar{x} = 4.07$, $\bar{x} = 4.05$, $\bar{x} = 4.05$, $\bar{x} = 4.04$, $\bar{x} = 4.03$, $\bar{x} = 4.02$ and $\bar{x} = 4.02/5.00$) respectively.

These results agree to those of Sarwar *et al.* (22) who reported that poor availability of nutrients is a major issue in livestock production. Similarly, Raziq *et al.* (20) reported that marketing as well as storage facilities for livestock and its by-products are very limited and poor. The availability of these services is very much crucial and important for value addition of livestock products and by-products. During qualitative discussion, majority of the respondents emphasized that Government should provide storage facilities at farm level, to earn more profit and compete with international markets as there is an increasing demand of livestock products and by-products with high prices. Similarly, on the same lines Husnain and usmani *et al.*(13) also concluded that training facilities of staff and farmers are not satisfactory at livestock research and experimentation stations. They further concluded that poor training capacities of the staff and poor participation of the farmers in livestock programmes are the major obstacles being faced by majority of the livestock farmers in Pakistan. In rural areas there are poor veterinary and livestock extension facilities as reported by the respondents. Similar findings regarding poor availability of livestock/veterinary extension services to the rural community were also recorded by some other scientists (11 and 19). During focus group meetings with livestock farmers and extension field staff, it was noted that in livestock related activities rural women contribute a lot. They are involved in multiple activities regarding livestock production and management. In spite of their significant contribution in livestock management they have no access to extension and outreach services. Munawar *et al.* (18) have reported similar findings.

Chi-square analysis

The relationship between constraints being faced by respondents (dependent variable) and educational level/accessibility of the respondents (independent variables) was found using chi-square test. It was hypothesized that livestock rearing farmers having good accessibility to the city with higher educational level face less constraints as compared to those having poor access to city and low educational status. The results of chi-square statistics are tabulated in Table 2.

Table 2. Chi-square test statistics.

Constraints	Accessibility		Education	
	Chi-square	P-value	Chi-square	P-value
Unavailability of good animal (Genetics)	42.909	<0.001	16.69	0.406
Low production per animal	23.148	0.003	32.124	0.01
Poor breeding services/AI	22.081	0.005	25.564	0.06
High feed/material price	29.573	<0.001	33.099	0.007
Low quality feed	30.546	<0.001	27.996	0.032
Fodder shortage	22.365	0.004	33.342	0.007
High energy prices (electricity, gas etc.)	19.221	0.014	18.482	0.296
High incidence of diseases	23.538	0.003	37.786	0.002
Poor veterinary services	24.744	0.002	25.216	0.066
Lack of advisory services/consultancy	18.396	0.018	29.935	0.018
Lack of training facilities	17.004	0.03	21.815	0.149
Poor marketing structure	43.845	<0.001	30.095	0.018
Exploitation by the middle man	27.375	<0.001	21.938	0.145
Lack of access to loan facilities	7.248	0.51	40.387	<0.001
Low milk prices	25.451	<0.001	23.313	0.106
Improper transportation	56.951	<0.001	26.165	0.052
Lack of storage facilities	53.342	<0.001	26.527	0.047

The results of the chi-square statistics showed highly significant relationship between constraints being faced by livestock farmers such as unavailability of good animals (genetics), high prices and poor quality of feed, poor marketing infrastructure for livestock products and by-products, exploitation of the middle man, low prices of milk, improper transportation and lack of storage/preservation due to limited access of the respondents to the city. Only one constraint “lack of access to loan facilities” had non-significant relationship with access of the respondents to city. But on the other hand, the situation differs in case of educational status of the respondents. constraint “lack of access to loan facilities” showed highly significant relationship with the education being possessed by the respondents concluding that both educational status and accessibility of the respondents to the city very much important to overcome the constraints faced by livestock farmers in the study area.

CONCLUSION

It was concluded that about 40.0 percent of the respondents were illiterate. Among literate respondents only 5.2 percent of the respondents had education with ten years of schooling and 3.5 percent of them had education more than 10 years of schooling. The livelihood strategies of majority of the

respondents (42%) were both crop and livestock farming. More than half of respondents (55.7%) adopt livestock farming, on semi-commercial basis. Among different constraints faced by livestock farmers high energy prices was on the top with highest mean value ($\bar{x} = 4.16/5.00$). It was also concluded that there is highly significant relationship between some constraints being faced by livestock farmers such as unavailability of good animals (genetics), high prices and poor quality of feed, poor marketing infrastructure for livestock products and by-products, exploitation of the middle man, low prices of milk, improper transportation and lack of storage/preservation due to limited access of the respondents to the city. On the other hand "lack of access to loan facilities" showed highly significant relationship with the education being possessed by the respondents concluding that both educational status and accessibility of the respondents to the city are very much important to overcome the constraints faced by livestock farmers in the study area.

Recommendations

Following recommendations are made to improve the livestock sector on sustainable basis so that livestock farmers can contribute to the national economy in a better way:

- Trainings should be imparted to livestock farmers regarding selective breeding of local breeds of small and large animals through artificial insemination. This will help in improving the livestock production.
- Proper veterinary and livestock extension services should be provided to the farmers at their door steps through trained extension professionals. This will reduce the mortality rate of animals and improve livestock production.
- Awareness campaigns should be launched at farm level to sensitize the significance of livestock raising on modern and scientific lines. This will help reduce poverty rate and enhance food security situation at farm level.
- In marketing of livestock animals and their products, role of middle man should be minimized. Emphasis should be given on value chain of the animals and their products/by products.
- Linkages between public and private sector extension services should be strengthened.

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Ejaz Ashraf	:	Statistically analysed and critically interpreted the study
Babar Shahbaz	:	Critically reviewed the manuscript
Zeeshan Iqbal	:	Conducted field work