LIVESTOCK AND DAIRY INDUSTRIES DYNAMICS: A CASE STUDY OF BALOCHISTAN PROVINCE

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Abstract

*This research was carried out in two selected districts (*Quetta and Bolan*) of Balochistan. In this regard, quantitative research design has been applied randomly. A sample size was three hundred and one fifty was each district. Chi-square test was run. The result shows that more than half (55%) of respondents are between the 20 to 40 age category. Majority (69%) of respondents were illiterate. While, most (31%) of respondents were literate and they did or get their education at any formal or informal institutions. Infinite majority (79%) of respondents lived or preferred to live in a joint family system. Only 21% of respondents lived into single status in both study areas. Respondents were asked about the Livestock and dairy industries dynamics in study areas. In this regard the data was gathered at field level. Therefore, it concluded that variations existed in the both district respondents' view regarding dairy and livestock industries dynamics in Balochistan level or province level. Effective milk supply mechanisms for rural and urban households should be developed so as to increase the milk yield at province level. Promoted the effective and positive interventions in dairy and livestock sector so as to reduce the rural poverty mostly in the province rural areas.*

Government should be facilitating the provision of the microcredit to dairy growers through various financial institutes and micro banks like Zarai Taraqiati Bank and so forth so as to reduce rural poverty.

***Keywords**: Livestock sector, dairy industries, dynamics, case study, Balochistan*

1.1 Outline of livestock and dairy industries

Livestock sector and agriculture are the prime and imperative segments of Pakistan's economy. However, the country is the most populated republic and placed 6th position worldwide. Agriculture sector contributes 20.9 percent of Gross Domestic Product. On the other hand, this sector has constituted 43.4% of the total labor force (GoP, 2017).

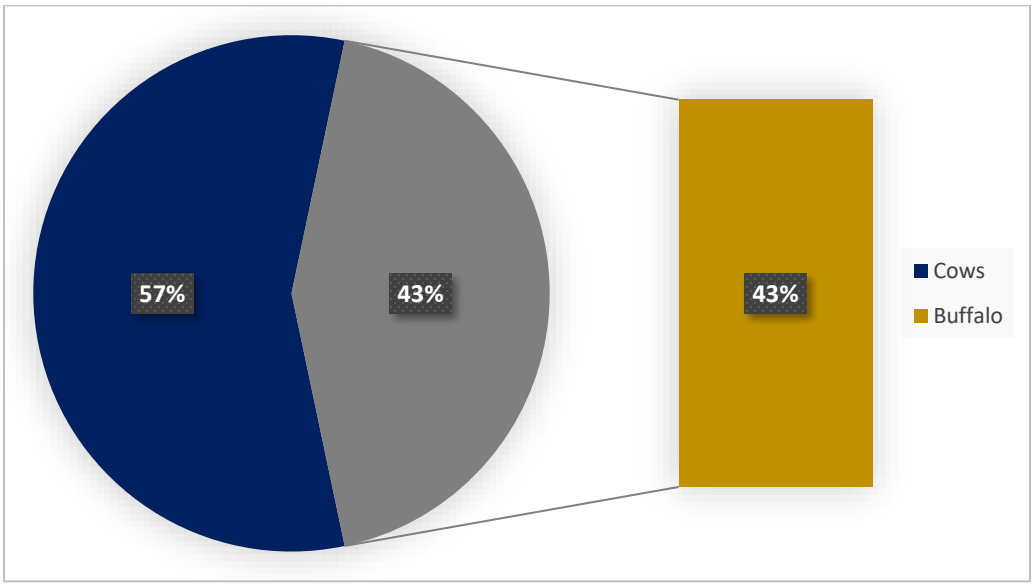
Livestock is a vital section and imperative sub-sector in agriculture. Livestock sector not only produces red meat for human consumption but also produces milk products and dairy items. Further, the milk products are major sole significant product for human commodity (Afzal, 2003)

Notwithstanding being the maximum profitable livestock item for consumption, milk production in this regard, is the slightest commercialized innovativeness in the agricultural sector. Basically, in Pakistan the mainstream livestock herd is scattered mostly in minor components or unions or units. However, on the other hand, around fifty-five million evicted or marginal dairy growers produce the greater substance of milk in Pakistan (Ahmad, 2003).

Dairy products are produced by livestock animals like cows, goats, sheep, Buffalos and so forth. In this regard these animals are major sources of milk-products. It was reported and documented by the FAO, that most eighty percent of the milk produced is from livestock in rural areas of Pakistan. These milks are collected from diverse buyers and transported from the urban areas. In this regard, the overall supply chain of milk is running (Ahmad, 2003).

According to figure-1, it was mentioned that 57-43% of the milk production increased during the 2006 period. Majority of the rural people and households were involved to drive the dairy industries. It was estimated that fifty-one percent of rural households have one to four animals for dairy purposes. On the other hand, twenty-eighty percent of rural households have five to ten livestock animals. Further, only seven % of the dairy farms at country level have fifty and more than 50 livestock animals. Currently, the large dairy farms are also established in urban areas rather than rural areas.

Figure-1: Comparative intensification in milk production during 2006.



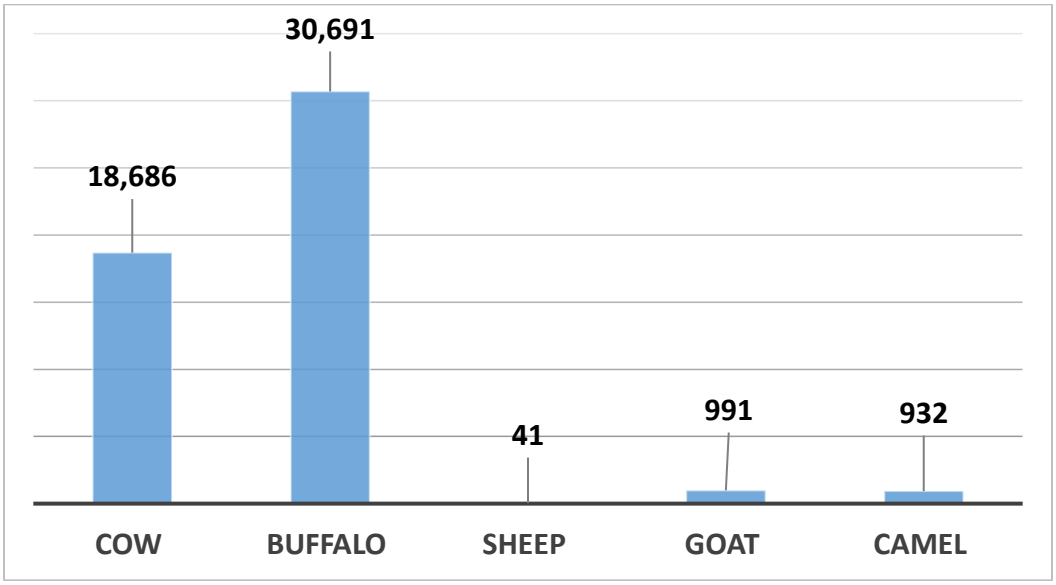
GoP, 2006, Economy Survey of Pakistan

1.2 Supply or demand

Milk and its product is the major food item in Pakistan after cereal crops. Livestock has a huge potential in Pakistan especially in Balochistan region with a lot of feed and fodder available due to the vast range of land. Milk is a major food item whereas in other parts of Pakistan milk is in huge demand. Owing to increasing price rises and a high level of poverty, at the country level mainstream population and dairy consumers are conscious about price hiking. Consequently, raw milk and its demand for either quality aspects or quantitative features is increasing at a considerable rate.

Henceforth, raw milk and its products in this context, are the main dairy product. The marking of the raw milk was another prime business in Pakistan. However, more than ninety percent of raw milk is marketed or sold in the informal market. Diverse market intermediaries are involved in the milk business in terms of multi-tiered layers. But the demand for milk still exists to a greater extent.

Figure,2: Estimated Milk Production (000 Tones) 2020-21



Source: Ministry of National Food Security & Research

Milk is an imperative diet for consumption. In this regard cow produced the gross milk production at 18,686 (000 tones), buffalo, 30,691 (000 tones), sheep, 41 (000 tones), goal 991 (000 tones) and camel 932 (000 tones) respectively as shown in figure-2.

1.3 Problems statement

Milk production and its smooth supply from rural to urban areas are prime issues. Various actors in this regard involve the milk supply like dairy farmers, milk collectors in diverse locations, middlemen in marketing level, processors in urban areas, traders, and finally consumers of milk. Milk produced and supplied through various formal and non-formal channels. There was lack of vertical integration of activities of dairy farming, on the other hand, there was also lack of dairy practices with scientific lining as a result of the low socio-economic farming of dairy farmers. Therefore, present research was conducted in order to measure the livestock and dairy industries dynamics as a case study of Balochistan province.

1.4 Research specific objectives

Following specific objectives were developed:

1.4.1. Demographic evidence of dairy farmers

1. To measure the demographic profile such as age composition, educational position, gender status of dairy farmers in study areas.

1.4.2 Specific evidence of dairy farmers

1. To judge the dairy industry's dynamics for the purpose of socio-economic speeding up in study areas.
2. To develop need based recommendations for future policy implications.

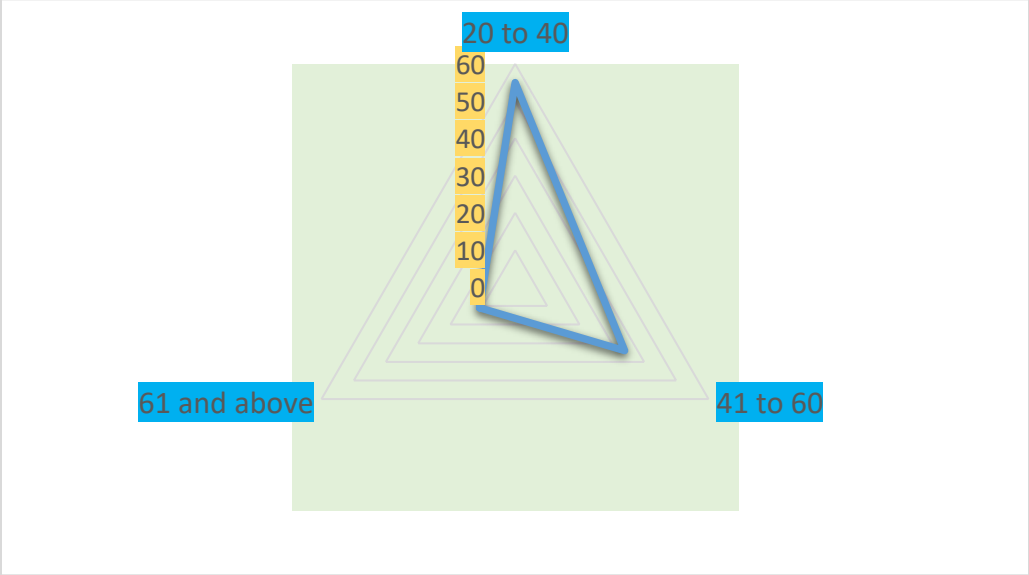
1.5 Research Methodology consideration

Quantitative research design has been applied in this research (Levin, 1979). Perception recorded of the dairy farmers was checked on questionnaire (Miller, 1977). However, two districts Quetta and Bolan were selected randomly. A sample size was three hundred and one fifty was each district. A comprehensive questionnaire was developed that recorded the data of dairy farmers at field level. Various limitations and constraints were faced by the researchers due to safety problems, language problems and lack of social networking in these areas (Phillips, 1971). Dairy farmers put to questions and cross-examinee independently from diverse places like the respondent's house, field and other alternate places (Sadhu, & Amarjit, 1990). Krejcie and Morgan, (1970) statistical table used. Cronbach‟s Alpha program within terms of validity and reliability of survey form was checked (Nunnally, 1967; and Nunnally 1978). However, the range was observed, .776 to .690 (Sharma, 1998). SPSS was used as an imperative data analysis tool in this regard (Siegel, 1970). Divser diagrams were used in this research (Tondon, 1989). In order to determine the association between two groups Chi-square test was run (Yamane, 1973). Based on a non-parametric test (Young, 1960). P-value was significant on five levels (Leedy, 1989).

1.6 Results and finding

Both independent and dependent variables were measured in order to judge the relationship between items. The data in this is recorded, encoded and installed into the SPSS (statistical software).

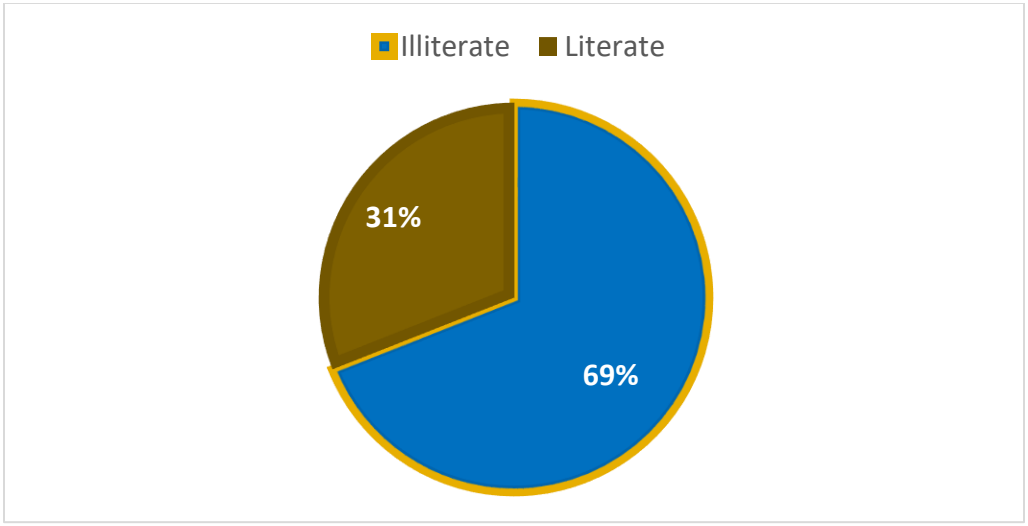
Figure-3, Age of respondents



The most important variable of the respondents is their age composition. Because the aged respondents were taking a better decision regarding the social problem and solved their issues pertaining with livestock or dairy farming as presented in figure-3.

The result discovered that more than half (55%) of respondents are between the 20 to 40 age category. Followed by 34-11% of respondents between 41 to 60 and 61 and above year age groupings respectively.

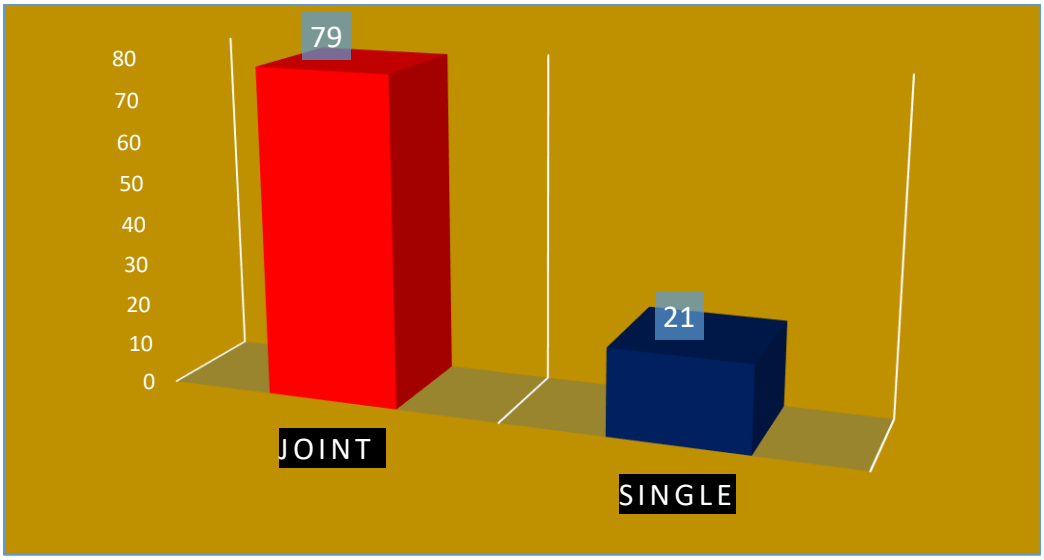
Figure-4, Educational status of respondents



Educational achievement has the imperative tool for desirable changes in human attitude. On the other hand, this tool is reflecting the positive impact. Educational variables and their related items are presented in figure-4.

Majority (69%) of respondents were illiterate. In this regard it was worthwhile to mention that the vast majority of respondents did not acquire learning, or education at any formal or informal institutions at all. While, most (31%) of respondents were literate and they did or get their education at any formal or informal institutions.

Figure-5, family structure of respondents



At the country level, the family system plays a vital role because most of the demographic population lived in rural areas around 70 to 75%. Their socio-economic background is about livestock and agriculture. Because their occupation as a professional system depends on huge human power or labor power. Therefore, they lived together.

In this regard the data was gathered and analyzed regarding family structure as shown in figure-5. Infinite majority (79%) of respondents lived or preferred to live in a joint family system. Only 21% of respondents lived into single status in both study areas.

Table-1, Dairy industries dynamics association by using Chi-Square

Livestock and dairy industries dynamics	Value	df	Asymp: Sig. (2-sided)
Quetta district respondents			
Pearson Chi-Square	6.410[a]	4	**.171NA**
Likelihood Ratio	6.523	4	.163
Linear-by-Linear Association	.054	1	.817
Phi	.146	-	.171
Cramer's V	.146	-	.171
Bolan district respondents			
Pearson Chi-Square	9.704[a]	4	**.046 ***
Likelihood Ratio	9.810	4	.044
Linear-by-Linear Association	1.505	1	.220
Phi	.180	-	.046
Cramer's V	.180	-	.046
No. of Valid Cases = (three hundred respondents) *Significant based on five % level			

Respondents were asked about the Livestock and dairy industries dynamics in study areas. In this regard the data was gathered at field level. Raw data analyzed by using the Pearson Chi-Square as shown in table-1 ($p \leq 0.05$). In this perspective, only statistically significant variances were observed about livestock and dairy industries and its dynamics. On the other hand, Cramer's plus Phi values or standards remain perhaps stately dignified. Based on the achieved outcome, Chi-Square values are only significant in Bolan district: (Chi-Square=9.704[a]), (Likelihood Ratio=9.810) and (Linear-by-Linear Association=1.505). While, Chi-Square values remains non-statistically significant in Quetta district based at ($p \leq 0.05$) level: (Chi-Square=16.410[a]), (Likelihood Ratio=6.523) and (Linear-by-Linear Association= .054). Therefore, it concluded that variations existed in the both district respondents' view regarding dairy and livestock industries dynamics in Balochistan level or province level.

1.7 Conclusions and recommendations

Current study's major purpose was to determine the dairy and livestock industries dynamics in the selected district of Balochistan. In this regard the data was collected at field or dairy farmers field so as to measure or assess the impact of dairy industries. Various challenges that were livestock and dairy industries are facing like inferior milk yields, improper animal management, lack of production technologies and lack of dearth of animal feeding practices, particularly taken or practiced by the small and marginal dairy farmers at province level.

Following recommendations were put forward: Effective milk supply mechanisms for rural and urban households should be developed so that to increase the milk yield at province level. Promoted the effective and positive interventions in dairy and livestock sector so as to reduce the rural poverty mostly in the province rural areas. So as to increase the milk yields, the government should be equipped with the latest dairy farming knowledge and better feed management for dairy farmers. A capacity building program should be arranged by the livestock department so that to increase the (research and extension) staff technical and professional skill. Public and partnership with the private sector should be enhanced and encouraged so as to empower the dairy farmers socio-economic condition. Artificial insemination facilities should be promoted widely. Government should be facilitating the provision of the microcredit to dairy growers through various financial institutes and micro banks like Zarai Taraqiati Bank and so forth so as to reduce rural poverty.

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