SOCIOECONOMIC ATTRIBUTIONS AND BARRIERS OF LIVESTOCK MANAGEMENT PRACTICES IN BALOCHISTAN

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Abstract

In order to explore the opinion of the respondents regarding the socioeconomic attributions and barriers of livestock management practices in Balochistan this study was carried out. Methodological approach described is a classic application of probability sampling within a quantitative research framework. By utilizing a simple random sampling technique to select a single district, the research ensures that every district in the potential population has an equal and independent chance of being chose, one hundred livestock respondents were taken. Study findings depicted that 20 to 40 have 30% and 41 and above were 70% regarding age groups. 67% of livestock respondents have a formal educational level. Majority (88%) of livestock respondents were earned 51000 thousand rupees. While, 50% of the livestock farmers having 12.5 hec landholding size. Based on current research findings, marginal and smallholder livestock farmers should be empowering in decision-making so as to improve household productivity, food security, and house income.

Keywords: *Socioeconomic attribution, Balochistan, barriers*

1.1 Overview

Socioeconomic attribution is the imperative variable of the livestock farmers. Socioeconomic status (SES) and its related attributions are considered the "prime" variables because they fundamentally shape human potential, cognitive outcomes, and institutional growth (Saleem, et al., 2023).
Livestock sector is an imperative and major pillar of the economy of Balochistan. It is a cornerstone of the regional economy, providing a significant source of livelihood and financial security for a majority of the rural population. Livestock sector contributes 70% of the local population in rural areas, livestock is the primary sustainable source of living, with around 80% of people involved in rearing activities either directly or indirectly. Livestock provides a steady flow of income and employment, acts as a buffer against crop failure, and is a major source of food products like meat, milk, and eggs, as well as non-food items such as wool, hides, and skins. Despite its current significant contribution, the sector is considered to have huge potential for further growth, especially in the halal meat industry for export to Muslim countries, provided it receives adequate investment and support in infrastructure, modern practices, and marketing.

1.2 Problem statement

In Balochistan, the livestock sector is a foundational pillar of the economy. Yet it faces significant socioeconomic and structural barriers that hinder its full development. Current, research indicates that while livestock is the primary livelihood for over 75% of the province's rural population in Balochistan and its potential remains largely untapped due to historical neglect and modern mismanagement. Remote areas suffer from a lack of physical infrastructure, including inadequate veterinary care, unhygienic water sources, and limited access to animal medicines. 10% to 11.4% of the overall provincial GDP depend on livestock sector, realization. Additionally, there is a lack of credit schemes and microfinance options specifically for rural livestock holders. Current study was identifying several critical barriers that prevent the sector from transitioning into a modern, revenue-generating industry.

1.3 Objectives

The objectives are:

1. **To detect the socioeconomic profile of the livestock respondents**: This involves gathering data on characteristics such as age, education level, income sources, land size, and herd size to understand the demographics of the farmers being studied.
2. **To find out the socioeconomic attribution and barriers of livestock farmers in the study area**: This aims to identify the specific factors (attributions) influencing farmers' decisions or situations (e.g., land ownership, access to services) and the challenges (barriers) they face, such as lack of credit, high feed costs, or limited market access.
3. **To develop policy implications regarding the attribution and barriers of livestock farmers for policy implication**: The final objective is to use the findings from the first two points to formulate practical recommendations for policymakers and development agencies to address the identified challenges and support sustainable livestock production.

1.4 Methodological framework

In the context of the study described, the research methodology follows a cross-sectional quantitative research design as established by Trochim (2000), aimed at measuring and generalizing socioeconomic attributes of livestock farmers in Balochistan through numerical data.

- Research Design: A quantitative approach was utilized to provide a "glue" for the project, structuring the relationship between samples, measures, and variables to ensure objectivity and generalizability.
- Target Area: Quetta District was selected as the focal region for the field study.
- Sampling Technique: Simple random sampling was applied to ensure each livestock farmer in the population had an equal probability of selection, minimizing bias.
- Sample Size: One hundred (100) respondents were selected. This size is often cited as a standard minimum for survey research to achieve sufficient statistical power for basic regression or frequency analysis.
- Data Collection Tool: A detailed questionnaire was administered at the field level to capture the perceptions of livestock farmers.
- Primary Focus: Recording socioeconomic attributions, such as gender, age (often found between 26–40 years), and literacy levels (frequently cited as low in this demographic).
- Validation: In similar frameworks using Trochim (2000), instruments are often pre-tested with a smaller group (e.g., 15 farmers) to ensure reliability, typically aiming for a Cronbach's Alpha above 0.70.

In their influential work, Introduction to Research in Education (1996), Ary, Jacobs, and Razavieh categorize factors in correlational and non-experimental research into two primary groups to distinguish them from experimental variables:

- Predictor Variable: This is the variable used to make a prediction or forecast an outcome. In correlational studies, it is often analogous to the independent variable (IV) in an experiment, but it is measured rather than manipulated.
- Criterion Variable: Also known as the outcome or response variable, this is the factor being predicted or explained. It is analogous to the dependent variable (DV) and represents the standard or result of interest (Leedy, 1989).

This classification is particularly used in correlational research where researchers cannot manipulate the variables (e.g., personality traits or demographics) but seek to assess the relationship and predictive power between them (Cohen et al., 2000).

The provided text describes a methodology for data analysis, specifically focusing on data entry and the application of the demographic information.

Data Entry and Scale Interpretation: The raw data was processed in Excel 2017, using a "five-point alpha level" framework derived from George &Mallery (2003). This typically refers to their widely used "rules of thumb" for interpreting Cronbach's alpha reliability coefficients, where values are categorized as Excellent (>.9), Good (>.8), Acceptable (>.7), Questionable (>.6), Poor (>.5), or Unacceptable (<.5) (Nunnally 1978; and Nunnally& Bernstein, 1994).

1.5 Finding of the research

In research focusing on the socioeconomic attribution of livestock farmers, several critical limitations are typically encountered during field-level raw data collection. These challenges often stem from the demographic profile of the respondents and the logistical complexities of urban and rural environments.

1.5.2 Demographic and educational barriers

High Illiteracy Rates: A significant portion of livestock farmers in developing regions are often illiterate or have low formal education (e.g., up to 45–49% in some studies). This makes the use of self-administered questionnaires impossible and complicates the understanding of complex survey scales like Likert scales.

Language and cultural gaps: Researchers often face language barriers and must navigate local cultural norms that may restrict who can be interviewed or what information can be shared.

Cognitive gaps in system complexity: Farmers may have deep local knowledge but lack insight into broader systems they cannot see (e.g., soil biology or global market trends), leading to gaps in data related to long-term economic planning.

1.5.2 Logistical and methodological challenges

Inaccessible Terrain: Livestock farming often takes place in remote, rugged areas with poor road connectivity, making it difficult for researchers to reach a truly random sample of the population.

Lack of Sampling Frames: In many developing countries, there are no accurate lists (like postal codes or comprehensive registries) of every rural household. This forces researchers to use non-random methods like "snowball sampling," which can introduce bias.

Poor Telecommunication: Limited mobile and fixed telephony in rural areas prevents researchers from conducting follow-ups or using digital survey tools effectively.

1.5.3 Data Accuracy and Reliability Issues

Recall bias and lack of records: Most smallholder farmers (up to 81% in some cases) do not maintain formal health or financial records for their livestock. This forces researchers to rely on the farmer's memory, which is prone to inaccuracy.

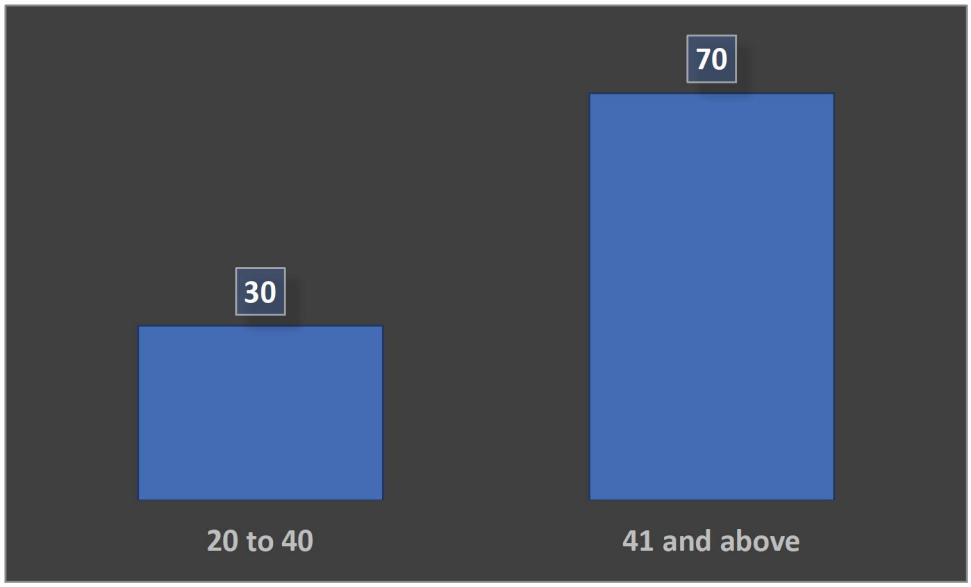
"Desired" Information: Farmers may "bend the truth" or provide answers they believe the researcher wants to hear, hoping that a "correct" answer might attract project funding or government aid to their community.

Sensitivity regarding income: Respondents are often reluctant or unable to provide exact quantitative data on income and expenditure because their earnings are irregular and tied to seasonal harvest or sale cycles.

1.5.4 Administrative and ethical hurdles

Research permits: Obtaining the necessary legal permits and coordinating with local village heads can be a time-consuming and difficult process that delays data collection.

Figure-1, Sample about age of the respondents



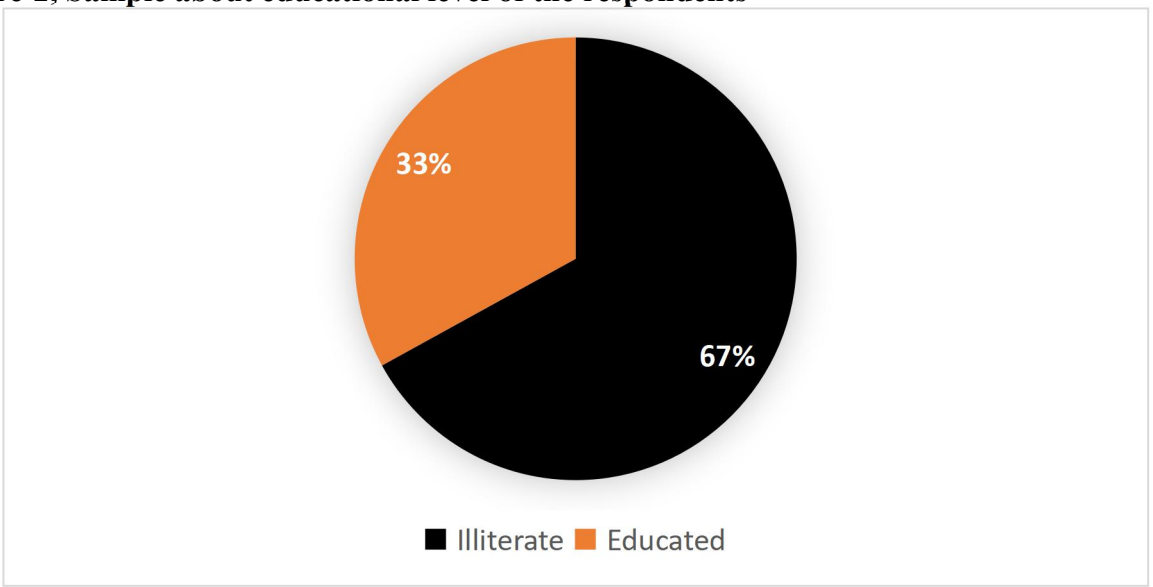
Age data interpretation

The provided statistics indicate that the respondent pool is slightly skewed toward an older demographic. Specifically, more than half of the participants are at least 40 years old. The distribution can be summarized as follows:

Aged 20 to 40+: 30%

Aged 41 and above: 70%

Figure-2, Sample about educational level of the respondents



In specific research contexts regarding the livestock sector, the educational distribution of

respondents often highlights a significant divide between literate and illiterate participants. Educational Distribution: Some studies report that 67% of livestock respondents have a form of education, while 33% are categorized as illiterate. Education level is frequently linked to a respondent's understanding of critical practices; for instance, literate respondents are more likely to have knowledge of zoonotic disease prevention as shown in figure-2.

Majority (88%) of livestock respondents were earned 51000 thousand rupees. While, only (12%) of livestock respondents were earned 50000 thousand rupees.
The query appears to be a statement of a specific, small-sample survey result regarding livestock respondents' earnings in a particular study, rather than a general query about average income levels in study area. The specified earnings are also significantly lower than current average annual salaries for various livestock-related roles.
The provided data points in the query are:
88% of respondents earned 51,000 thousand rupees and more than (PKR 51,000,000).
12% of respondents earned 50,000 thousand rupees (PKR 50,000,000).as shown in figure-3. In Pakistan, landholding is dominated by small farms, with an average farm size of approximately 5.1 acres (2.06 hectares) as of the 2024 agricultural census. Land is heavily fragmented, and the majority of farmers operate very small plots. The national average farm size has decreased to 5.1 acres (2.06 hectares), down from 6.4 acres in 2010. 97% of farmers own less than 12.5 acres of land. Approximately 61% of farmers have landholdings of less than 2.5 acres (about 1 hectare), which often do not provide sufficient income for a livelihood.

40% of the livestock farmers having 2.5 hec landholding size. While, 50% of the livestock farmers having 12.5 hec landholding size. Whereas, more than 12.5 of the livestock farmers having 10 hec handholding size.
To find the weighted average landholding size, we first identify the percentage of farmers (P) and their corresponding landholding sizes (X) in the total percentage must equal 100% and the first two groups account for 90% (40%+50%), the remaining group accounts for 10% as shown in figure-4;
Group 1:
P1=40%=0.40 X1= 2.5 hec
Group 2:
P2=50%=0.50 X2= 12.5 hec
Group 3:
P3=10%=0.10 X3= 10 hec

1.6 Conclusions

the socio-economic status of livestock farmers in rural Balochistan remains critical, with over 75% to 80% of the rural population directly or indirectly dependent on this sector for their livelihood. Despite its vital role—contributing approximately 52% to the provincial GDP—the sector faces a bleak picture. The Government of Balochistan is implementing several initiatives to promote the socio-economic condition and empowerment of livestock farmers, primarily through the

Balochistan Livestock Policy and Strategy 2020-2030 and various development projects. These efforts aim to boost productivity, improve market access, and provide financial support to rural communities. Based on current research findings, marginal and smallholder livestock farmers should be empowering in decision-making so as to improve household productivity, food security, and income. Governments should incentivize farmers to form Farmer Producer Organizations (FPOs) or marketing groups. These groups enhance individual bargaining power, reduce reliance on other stakeholders.

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