

Management of livestock potentials in Balochistan: Prospects and constraints with special reference to small ruminants

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Abstract: The purpose of the current study is to examine the livestock potential and its future prospects by looking into the constraints in Balochistan with special reference to small ruminants. This research paper is an endeavor to purport the potential and future prospects of livestock in Balochistan through the constraints which are the major hurdle in development of livestock sector in Balochistan. Convenience sampling technique was used to collect the data using five point Likert scale, self-constructed questionnaire with proper steps taken to ensure reliability and validity of measurement. Hypotheses were tested using correlation and hierarchical moderated regression analysis. Results shows a positive relationship between livestock potential and livestock development and constraints moderates the relationship between livestock potential and development of livestock. This study takes a bold step to help policy makers in the management of livestock by providing estimates on the potential, prospects and constraints in livestock sector of Balochistan.

Key Words: Livestock; potential; constraints; small ruminants; Balochistan; economy.

1. Introduction

Balochistan is located in southwest of Pakistan, constituting approximately 44% of the country's total land mass (Pakistan, Bakr, & Jackson, 1964), and the smallest in terms of population, being home to less than 5% of the country's total population (Khan, 2014). The province is surrounded by Afghanistan to the north and further north-west, Iran to the south-west, the Arabian Sea to the south, two Pakistan Provinces; *Punjab* and *Sindh* to the east, and *Khyber Pakhtunkhwa* and Federally Administered Tribal Areas to the north-east. There is very low rainfall in major part of the province. Most part of Balochistan is highly arid zone of the country.

Livestock sector is considered the backbone of the economy of Balochistan province. Economic development generally refers to the sustained, concerted actions of policy makers and communities that promote the standard of living and economic health of a specific area (Sen, 1983). Economic development can also be referred to as the quantitative and qualitative changes in the economy through empowerment of common people and growth through net proceeds

increment. Such actions can involve multiple areas (Cooke, 2002), including development of human capital, critical infrastructure, regional competitiveness, environmental sustainability, social inclusion, health, safety, literacy, and other initiatives. Economic development is a policy intervention endeavor with aims of economic and social well-being of people (Mansell & Wehn, 1998). Economy of Balochistan consists of different segments such as: Manufacturing, services, mineral and agriculture which majorly the largest part of economy. Majority of population relies on agriculture sector in Balochistan; however, shortfall of rains has not acclimatized the agriculture sector to flourish or to sustain agriculture activities. Subsequently, people look for the alternative sources income to generate their livelihood. In addition, livestock is the most indispensable sector of the rickety agriculture economy of Balochistan. Sheep, goats, cattle, camels, horses, donkeys, poultry, mules and buffaloes are the major types of livestock found in Balochistan. Sheep and goats which are considered small ruminants are the most significant livestock which are kept by all sorts of farmers and livestock traders.

Livestock development is significant for the economy of Balochistan. People of Balochistan are poor because of no industrialization. Furthermore, the province does not receive sufficient rainfalls and no major rivers that could provide proper irrigation to the province (Islam, Ahmad, & Afzal, 2004). Women contribution to the Balochistan economy can be highlighted in different ways. Women can save more than men (Sheffrin, 2003), however, women have no access to the income directly which reduce the ability of family to save (Shapiro, Haider, Alemu, & Abebe, 1998). Livestock also has the healthy contribution to the economy of Balochistan. Its share in Balochistan agriculture economy is more than 52% (Raziq, Younas, & Rehman, 2010). Livestock is an important sector for the inhabitant of Balochistan, since, 80% population is involved in livestock related activities directly or indirectly (Raziq et al., 2010). In Balochistan, the whole family can be involved in livestock rearing especially sheep and goat (Younas, 1997).

Livestock of Balochistan predominantly consists of sheep and goat, is a major source of profit generation for livestock holders. They can financially support their families (Afzal, 2006). Livestock sector is major source of employment in the major part of province. If livestock sector is developed with its full potential, the province can overcome unemployment (Belshaw, 1990) and can generate a major economic activity to everyone (Islam et al., 2004). Livestock is vibrant to earn money. However, lack of money is considered the major hurdle in the development of the sector in Balochistan.

With the existing constraints and problems, coupled with the inefficient marketing strategies that based on traditional footing (Kosgey, Rowlands, Van Arendonk, & Baker, 2008), the economy of Balochistan is not progressing any further. People are unaware of modern marketing technique (Baloch, 2003). Though the people have been in the business for centuries, they are still unaware of the effective way to promote and to market their produce. They do not know about the supply chain of their livestock. Hence, livestock potential cannot be fully utilized for economy. However, most of them are illiterate or have low education (Beddington, 2010).

As the economy of Balochistan relies on livestock, hence, proper understanding and management of livestock is essential. A proper management could pave way for poverty reduction and food security, which in return, will increase incomes and productive assets in the target areas. Through this study, it is hoped that an efficient approach could be delineated to find a better way to produce higher livestock productivity.

2. Literature reviews and Hypotheses Development

The challenges to address poverty issues in rural areas can be alleviated through expanding economic opportunities, empowering the poor to take advantage of opportunities and providing an effective safety net to reduce vulnerability (Kabeer, 2002). In many countries, poverty is mostly linked to low level of assets holding coupled with low and uncertain returns (Ali, 2007). Especially in the livestock farming, the low usage of technology and low level of illiteracy further complicates the matter (Agwu, Ekwueme, & Anyanwu, 2008). Many studies show that there is a positive relationship between livestock potential and development. When the livestock potential is increased, farmers will be able to enjoy a higher yield and income (Bell, Dove, McDonald, & Kirkegaard, 2015). To further alleviate the poverty level, the focus on the livestock potential becomes significant. Hence, we postulate our first hypothesis as below:

H₁: There is a positive relationship between livestock potential and development.

Due to the low government allocation and budgetary constraint, the development of the livestock industry and the welfare of farmers are badly affected (Mumtaz, Saleem, Shujat, & Qureshi, 2010). This situation, coupled with the poor infrastructure, inadequate range management

and subsistence policy causes a devastating state to the economy and people (Mumtaz et al., 2010). On top of that, the local farmers do not have much idea or familiarity with modern livestock husbandry practices. There is no proper management of cattle farming activity that leads to low productivity (Rusinamhodzi, 2015). With the low literacy level, the local farmers use unhygienic and polluted water for their livestock. Proper management of healthcare coverage, poor marketing system and extension services becomes a great constrain to the development of the livestock and its economy (Kalaivani & Bose, 2015). The connection between the small-scale farmers with intermediaries are very limited. All these further adds to the constrain of the industry and its development. Furthermore, the technical know-how is very lacking in the province. With the constraints at Balochistan, we further postulate the second hypothesis as below:

H₂: Constraints have moderating relationship with the potential and development of livestock.

Figure 1 depicts the economic development conceptual framework which generally refers to the sustained, concerted actions of policy makers and communities that promote the standard of living and economic health of a specific area (Sen, 1983); including development of human capital, critical infrastructure, regional competitiveness, environmental sustainability, social inclusion, health, safety, literacy, and other initiatives.

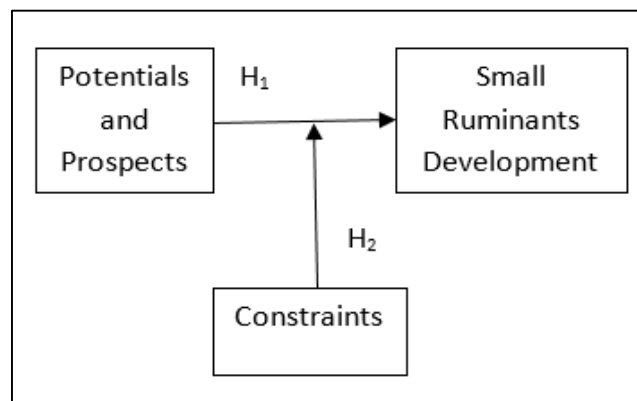


Figure 1: *Hypothesized model*

3. Materials and methods

Due to the peculiar nature of circumstances in the province, the convenience sampling technique was used to collect the data through five scale Likert scale self-constructed questionnaire. Based on Morgan Table the good sample size to be taken is 510 respondents. According to the possibility of unreturned questionnaires, an additional 20 per cent samples are included. After the administration of the questionnaires, we finally received 422 questionnaires. All respondents were males. The demography's for respondent in this sample had an average age of 35.4 years (a mean of 42.52, S.D. =32.41) years. For reliability of questions, content reliability and factor reliability used. To measure content reliability, we seek help from the experts, elites and academics. Self-constructed, questionnaire were used to test the perceptions of the targeted population through convenience random sampling. The results were then analyzed by using the statistical tool. Basically twenty (20) Districts out of 30 Districts of Balochistan were selected considering the different factors. These were: Loralai, Musa-Khel, Awaran, Killa-Abdullah, Pungoor, Turbat, Killa-Saifullah, Kharan, Machh, Harnai, Pashin, Zhob, Kohlu, Khuzdar, Matung, Kallat, Lasbela, Hub, Chaghi, and Noshki. In these areas majority of population consist of Baloch and Pashtoon tribes who have the tremendous potential for livestock in Balochistan. The response scale has been five point Likert-type scale ranging from one (strongly disagree) to five (strongly agree).

4. Result

Results indicate significant positive relationship. Potential and prospects (PP) regarding development proved to be significant and positively supports the H₁. Hypothesis₁ investigated the relationship between poverty reduction, empowerment, production growth, and improvement in standard of living with development. Constraints had the moderating effect; therefore, moderating the development as shown in the table I (the findings support H₂). Multiple regression was calculated to predict whether the hypotheses are supported by the study or not. It is observed that PP ($\beta = .65$), has a significant and positive relationship with development at 0.05 level. FMEC ($\beta = -.15$), and GC ($\beta = -.12$), have significant effect on development. Development (.000) and PP (.000) are significant predictors (or related significantly) of overall development. The standardized beta tells the strength and direction of the relationships between PP and constraints. Potentials and future prospect are positively related to overall development.

Table I: *Pearson correlation matrix for development, potential prospects and constraints*

	Mean	SD	Variance	Correlations				B
				1	2	3	4	
1. Development (DV)	4.14	.52	.46	1				0.80
2. PP (IV)	4.20	.57	.55	.75	1			0.90
3. FMEC (IV)	4.20	.47	.44	-.10	.38	1		0.85
4. GC (IV)	4.00	.51	.73	-.14	.43	.60	1	0.86

FME= Financial Marketing and environment GS= Government and Social

** All items are Correlated significantly at the 0.01 level (2-tailed)

B = Cronbach Alpha

The positive coefficient (correlation) for potentials and prospects suggest that high value on this variable correspond to higher scores on the dependent variable (i.e. small ruminants development in terms of increase net proceed). The $R^2 = .604$, R^2 change = .06 is the proportion of variation in the dependent variable (small ruminants' development) that is explained by the independent variable. All items encumbered significantly ($> .50$) on their respective factors which was an indication of reliability. Cronbach's alpha values for all scales exceeded the minimum verge level of .80 thus indicating the reliability of all scales used in this study (Table I). Study discovers that substantially large population rears small ruminants (97.7%) as a source of income and survival. Only 7% livestock holders have buffalos in under study area whereas 27 % people have cattle at their homes. Camel, horses, Mule, donkey and other livestock are also rare in the sample area. Proposed hypothesis received considerable support. Research was practically indigenous and it was descriptive and causative in nature.

5. Discussion

Hypotheses were supported by the results. However, this finding indicates that potentials of income generation, saving ability and increase in small ruminants' numbers are the very important characteristics that enable the individual to appropriately use the potential of small ruminants for his livelihood. The findings of H_1 shows a positive relationship between livestock potential and development. There is a need to utilize the potential of livestock in order to achieve the economic development and prosperity in the province. Livestock can generate the sufficient income which leads to poverty alleviation for the livestock holders. The findings prove that proper management

of livestock potential and development are important contributor to the economy of Balochistan. Hence, it is suggested that there is greater emphasis by the government to scrutinize the current gaps in the management, and to provide greater management efficiency for the development of the industry and people. On the other hand, **H₂** tested the moderating effect. It showed that FMEC and GC constraints has a moderation effect on the potential and development of livestock. Livestock holders do not have enough resources to pave their business on modern footing. Lacking of finance compel them to have their livelihood on traditional herding practices. Additionally, livestock marketing practices are primitive and having no adoption toward modernization. Environmental eco system is one of the constraints which do not let the livestock business to flourish in Balochistan. The role of government has emerged to be meagre and weak support for livestock holders as it has to function to uplift the sector. In order to boost the economy of Balochistan, the government plays an important role, as the constraints are mostly from the government policies. There should be greater budget channeled to assist the people and to increase the literacy levels. On top of that, the exposure to modern farming needs to be properly channeled to the people.

This finding suggests that small ruminant's holders who engage themselves in small ruminants business are susceptible to constraints. This study examined the relationship among development, PP, FMEC constraints and GC in livestock of Balochistan with special reference to small ruminants. Proposed hypotheses received considerable support. The study fills the gap of the past studies in the context to assess the relationship among PP, FMEC and GC. It was hypothesized that development would be positively related to PP. finding indicates that PP is a vital characteristic that enables the development of livestock sector. Hence, this shows that constraints obstruct the livestock development in Balochistan. Moreover, constraints have influence over the PP in Balochistan livestock development in Balochistan. The results of this study confirmed expectation for an inverse relationship between development and constraints. Study also suggests that majority of people who rear livestock are illiterate in Balochistan. This shows that small ruminants are significant for the development of the economy of Balochistan but numbers of constraints are major hurdle in the way of prosperity. Decision makers can use the research outcomes as to focus on the downsides in order to fully utilize the potential of livestock for the economic development of province.

6. Conclusion

Potentials of livestock in agriculture economy is phenomenal, hence, it has a future prospects for its rapid progress. People who are involve in livestock rearing activities especially small ruminant are sanguine for its sustainability and progress in the province. Majority of people in Balochistan have small ruminant only for their livelihood (Khan, 2014). Livestock rearing has significant role to support the rural families. Since, small ruminants are easy to manage at home and give a reasonable income to the livestock holder, it should become an important emphasis as most people in Balochistan relies on livestock rearing as their course of income. As part of the agenda to develop the economy of Balochistan, focus on the responsibilities of the women can be re-instated. Potentials and prospect of livestock can be judge through the role of women which they play—women constitute 60 to 80 percent of the agricultural labor force in developing countries (Dixon, 1982). This research study is valuable for livestock holders, producers and traders, as they plan their activities by considering the significant role of livestock for the economy of Balochistan as it might provide the guideline for policy makers in their planning pertaining to livestock sector especially small ruminants. This dream of economic development and prosperity can be achieved by paying attention on the constraints such as financial, marketing and better management of ecological system. In this regard, this paper may assist the decision makers to formulate their policy by focusing more attention on the livestock sector due to it tremendous potential and future prospects. Additionally, there are numerous constraints which can be mitigated by the better management and planning.

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